DRUG & COSMETIC INDUSTRY

SEPTEMBER, 1952

FEATURE ARTICLES • •

PHARMACEUTICAL RESPONSIBILITY		310
UP-TO-DATE ON VITAMIN B_{12}	Milton A. Lesser	312
HOW TO GET A PACKAGE FOR LESS MONEY	Robert Wilson Proom	314
PATENT POINTERS—IV	Thomas Cifelli, Jr.	316
AEROSOL BOMBS	Harry Hilfer	319
THE SYMPATHOMIMETIC DRUGS	Dr. J. L. Boyle	320
PHARMACY AND HEALTH	Ivor Griffith	322
PHARMACOLOGY AND FOODS, DRUGS, AND COSMETICS	L. W. Hazleton, Ph.D.	324

DEPARTMENTS • •

KEEPING POSTED	Thomas R. Farrell	305
PACKAGING AND SELLING	Frazer V. Sinclair	327
DOIN'S		333
NEWS	Frank Child III	343
TRADE LITERATURE		355
MANAGEMENT FORUM	Francis Chilson	359
READERS' QUESTIONS	Milton A. Lesser	369
ADVANCING THERAPY	Milton A. Lesser	371
COMPOUNDER'S CORNER	Milton A. Lesser	375
PATENT THOUGHTS AND TRENDS	Thomas Cifelli, Jr.	379
ANIMAL HEALTH	Milton A. Lesser	382
PERFUMER'S SHELF	Milton A. Lesser	384
INDUSTRY'S BOOKS	Harry G. Kelbly	387
ABREAST OF THE MARKETS	Frank Child III	391

THOMAS R. FARRELL, Editor
FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
MAX FRANKEL, Art Director

The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer, Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York 1, N. Y., U. S. A.

Business Manager, Frazer V. Sinclair; Advertising Manager, P. W. Alexander; Advertising Representatives, Walter M. Brauneiss, C. R. Keeley. Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

Chicago Advertising Representative: Dwight H. Early, 100 No. LaSalle St., Chicago 2; Telephone, CEntral 6-2184.

Subscription price — $3.00 a year, in advance, Foreign Countries, $5.00. Single copies, 35c; Back issues, 50c Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879 Member of Audit Bureau of Circulations.

Contents Copyrighted 1952 by Drug Markets Inc.

DRUG & COSMETIC INDUSTRY

SEPTEMBER, 1952

FEATURE ARTICLES • •

PHARMACEUTICAL RESPONSIBILITY		310
UP-TO-DATE ON VITAMIN B_{12}	Milton A. Lesser	312
HOW TO GET A PACKAGE FOR LESS MONEY	Robert Wilson Proom	314
PATENT POINTERS—IV	Thomas Cifelli, Jr.	316
AEROSOL BOMBS	Harry Hilfer	319
THE SYMPATHOMIMETIC DRUGS	Dr. J. L. Boyle	320
PHARMACY AND HEALTH	Ivor Griffith	322
PHARMACOLOGY AND FOODS, DRUGS, AND COSMETICS	L. W. Hazleton, Ph.D.	324

DEPARTMENTS • •

KEEPING POSTED	Thomas R. Farrell	305
PACKAGING AND SELLING	Frazer V. Sinclair	327
DOIN'S		333
NEWS	Frank Child III	343
TRADE LITERATURE		355
MANAGEMENT FORUM	Francis Chilson	359
READERS' QUESTIONS	Milton A. Lesser	369
ADVANCING THERAPY	Milton A. Lesser	371
COMPOUNDER'S CORNER	Milton A. Lesser	375
PATENT THOUGHTS AND TRENDS	Thomas Cifelli, Jr.	379
ANIMAL HEALTH	Milton A. Lesser	382
PERFUMER'S SHELF	Milton A. Lesser	384
INDUSTRY'S BOOKS	Harry G. Kelbly	387
ABREAST OF THE MARKETS	Frank Child III	391

THOMAS R. FARRELL, Editor
FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
MAX FRANKEL, Art Director

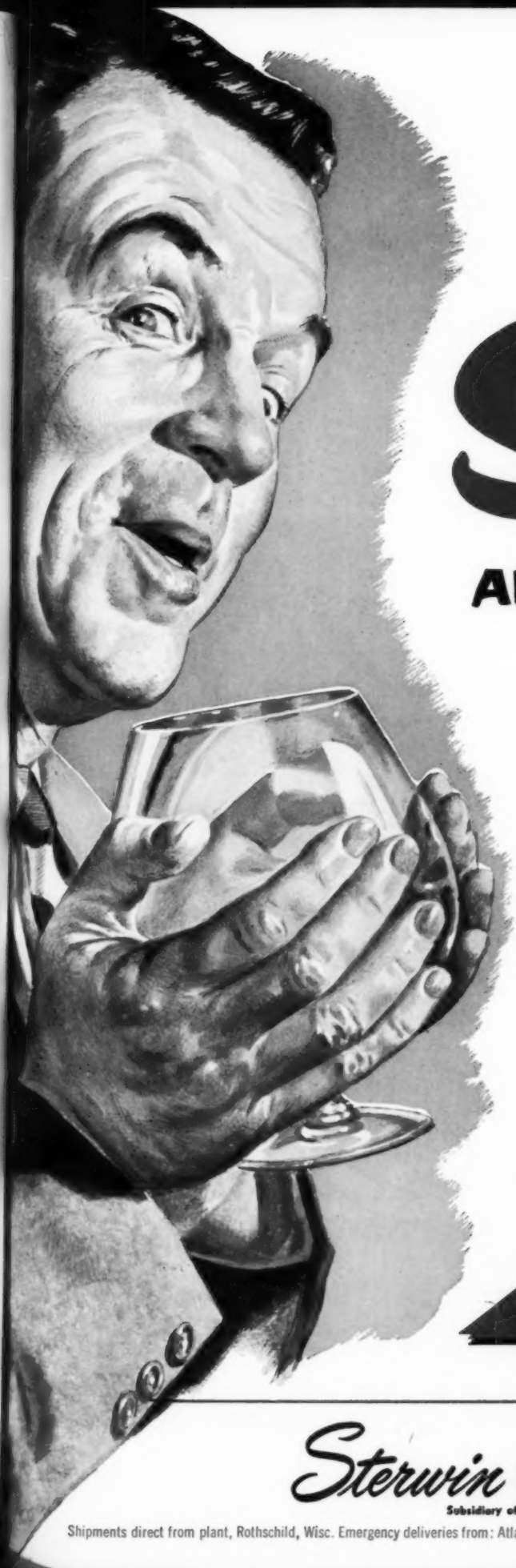
The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer, Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York 1, N. Y., U. S. A.

Business Manager, Frazer V. Sinclair; Advertising Manager, P. W. Alexander; Advertising Representatives, Walter M. Brauneiss, C. R. Keeley. Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

Chicago Advertising Representative: Dwight H. Early, 100 No. LaSalle St., Chicago 2; Telephone, CEntral 6-2184.

Subscription price — $3.00 a year, in advance, Foreign Countries, $5.00. Single copies, 35c; Back issues, 50c Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879 Member of Audit Bureau of Circulations.

Contents Copyrighted 1952 by Drug Markets Inc.



Superb

AROMA and FLAVOR —

The Result of Skill and Experience

Like the finest Napoleon brandy . . . ZIMCO, the *Original* pure Lignin Vanillin, approaches perfection in exquisite aroma and superb flavor.

ZIMCO's outstanding excellence and uniformity of flavor are the result of its exclusive, patented manufacturing process . . . developed through years of scientific experiment and research.

For the taste and aroma that delights customers and sells more products, leading food processors insist on flavors made with ZIMCO Vanillin.

Remember . . . your best source of finished, ready-to-use flavors is your flavor manufacturer. Ask him about ZIMCO, the *Original* pure Lignin Vanillin. *There's nothing finer.*

ZIMCO®

WORLD'S LARGEST SELLING VANILLIN

Consult Your Flavor Supplier

Sterwin Chemicals INC.

Subsidiary of Sterling Drug Inc.

● 1450 BROADWAY, NEW YORK 18, N. Y.
● 445 LAKE SHORE DRIVE, CHICAGO 11, ILL.

Shipments direct from plant, Rothschild, Wisc. Emergency deliveries from: Atlanta, Chicago, Dallas, Los Angeles, Portland (Ore.), Rensselaer (N. Y.), St. Louis and San Francisco

Almost Everyone
IN THE COSMETIC INDUSTRY
uses
MASCHMEIJER
AROMATICS
...the finest that specialized skill and modern science can produce

MUSK
Ambrette—100%
Keton—100%
Xylol—100%

CITRONELLOL EXTRA

GERANIOL ABSOLUTE

BENZYL ACETATE
(chlorine free)

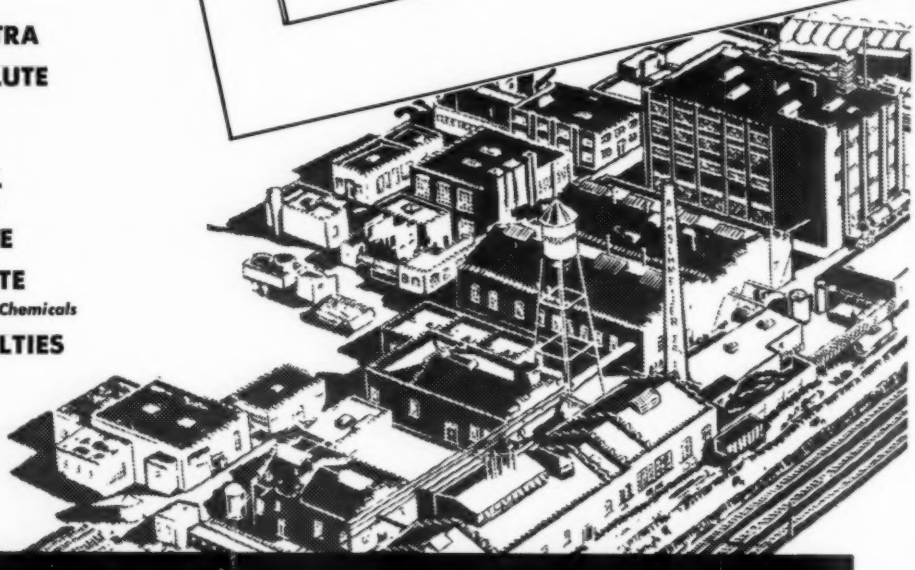
BENZYL ALCOHOL
(chlorine free)

BENZYL BENZOATE

BENZYL SALICYLATE

And Other Fine Aromatic Chemicals

AROMATIC SPECIALTIES
- *Perfumes*
- *Soaps*
- *Cosmetics*



A. MASCHMEIJER JR., INC.
Manufacturers of Aromatic Products
45 West 16th Street • New York 11, N. Y.
Factory: Newark, N. J.

● *And uniform savings for you!* For any variation in the beeswax base of your chemical, pharmaceutical or cosmetic preparations can cause additional expense in your laboratory and plant—and lost sales at your dealers' counters.

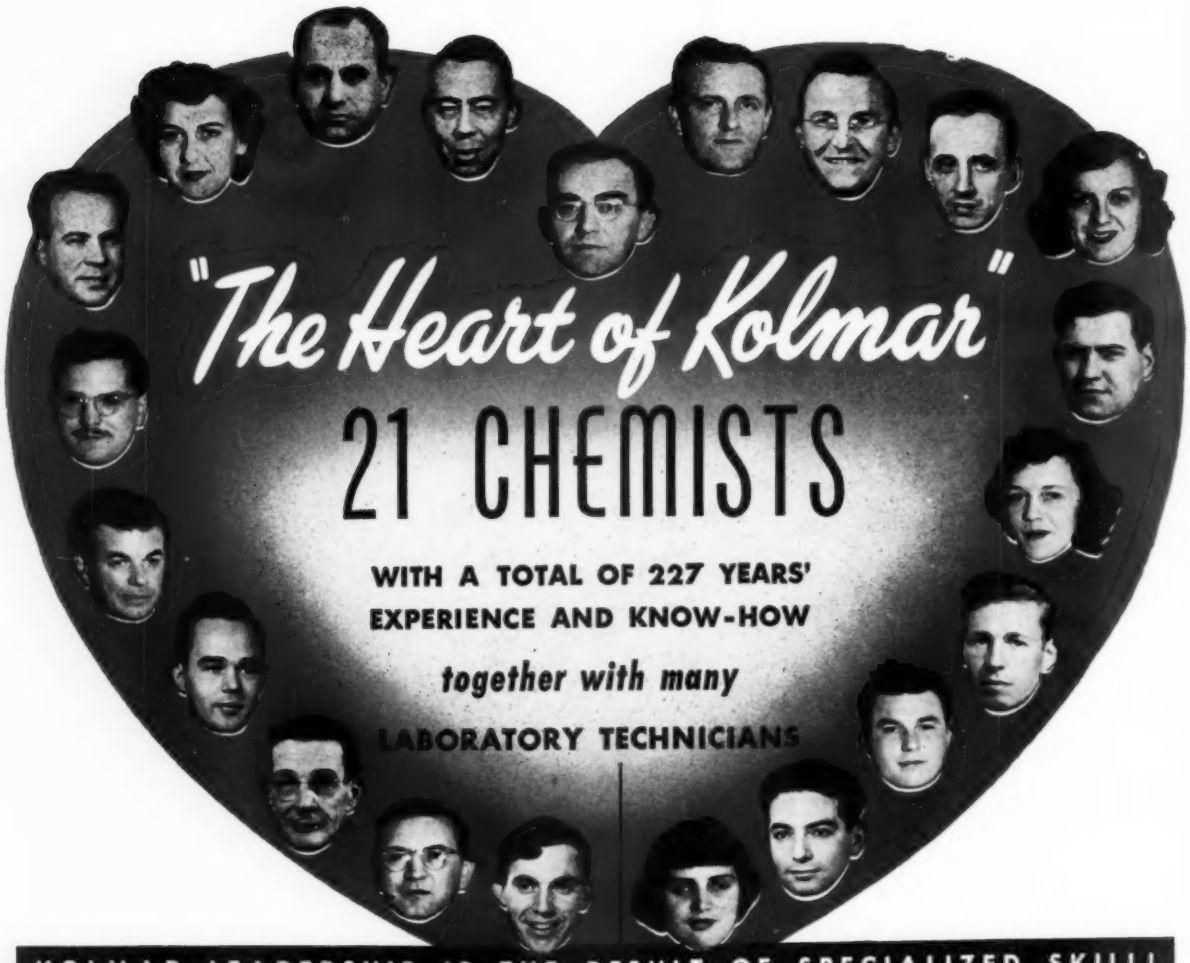
Natural refined beeswax is a small fraction of your total product cost. Yet the unchanging purity, texture and whiteness of Beehive Brand Beeswax can be the big help in keeping your product up to the high standards you have set.

FREE CONSULTATION SERVICE

The experimental data and practical manufacturing experience of nearly a hundred years' specialization in beeswax and beeswax compounds are at your service without cost or obligation. Write us about your beeswax problems.

WILL & BAUMER
Candle Co., Inc.
Syracuse, N. Y. **Established 1855**

SPERMACETI • CERESINE • RED OIL • YELLOW BEESWAX • COMPOSITION WAXES • STEARIC ACID • HYDISTEAR


"The Heart of Kolmar"
21 CHEMISTS
WITH A TOTAL OF 227 YEARS' EXPERIENCE AND KNOW-HOW
together with many
LABORATORY TECHNICIANS

KOLMAR LEADERSHIP IS THE RESULT OF SPECIALIZED SKILL!

♥ The "Heart of Kolmar" provides continuous creative research and thorough testing at every step of the manufacturing process . . .

♥ It provides the control of quality from raw material to finished product . . .

♥ It has given Kolmar product superiority and uniformity, combined with favorable price . . .

♥ It has enabled Kolmar to develop many of the best known products in the cosmetic field . . .

♥ It constantly works for the improvement of existing methods and formulae, and the development of new ones.

♥ It has won Kolmar recognition *as America's Leader in Private Label Cosmetics.*

The customer's rights in the formula under which he operates is always respected by Kolmar. Consultation will not obligate you and there's a Kolmar Laboratory or Representative near to give you prompt service at all times.

●

Kolmar Products include Lipstick, Dry and Cream Rouge, Loose Face Powder, Cake Make-Up, Compact Powder, Foundation Creams, Liquid Make-Up, Eye Shadow, Mascara, Lotions, Colognes, Perfumes and other cosmetics.

●

REPRESENTATIVES: DOUGLAS HAGGERTY; THOMAS LA PRELLE, EASTERN SALES MANAGER, EMPIRE STATE BUILDING, ROOM 605, NEW YORK, N. Y.; WARREN M. CURRY, 599 PLUM ST., N. W., ATLANTA, GA.; NORMAN L. KOLE, 505 N. LA SALLE STREET, CHICAGO, ILL.; J. C. WEILER, 8003 FORSYTHE BLVD., ST. LOUIS 5, MO.; R. F. G. BYINGTON, 1260 N. WESTERN AVENUE, LOS ANGELES, CALIF.; RICHARD F. SPICKER, 419 WEST FIFTH ST., CINCINNATI, OHIO; ELMER J. SCHWARTZ, 10016 EAST 35th TERRACE, KANSAS CITY 3, MO.

Kolmar LABORATORIES

MILWAUKEE 2, WISCONSIN

PRIVATE LABEL COSMETICS EXCLUSIVELY

KOLMAR COSMETIC SPECIALTIES, INC. complete package division ● KOLMAR INTERNATIONAL, INC. ● WICKHEN PRODUCTS, INC.

PLANTS IN PORT JERVIS, NEW YORK; TWO PLANTS IN MILWAUKEE, WIS., AND ONE IN HOLLYWOOD, CALIF.
CANADA: KOLMAR WILCKENS, LTD., PLANT IN OAKVILLE, ONTARIO; OFFICE: 285 YONGE ST., TORONTO, ONT.
AUSTRALIA: KOLMAR (AUST.) PTY. LIMITED, 494 KENT ST., SYDNEY; KOLMAR EUROPE: PARIS, FRANCE

CUSTOMERS HIDE WHEN THE FLAVOR DOESN'T

Therapeutic or Not, the wary consumer frowns upon a bad-tasting pharmaceutical. The alert manufacturer knows that a good, distinctive flavor adds a world of appeal . . . lends personality to his product . . . makes the sale easier — and makes it stick!

*

Optimo Imitation Flavors by Penick offer the manufacturer a broad selection of high-quality, skillfully produced flavoring materials for liquids and powders. In addition, the facilities of our development laboratories are available to customers for the purpose of creating specific flavors for particular needs.

It's All in Your Favor — when the flavor originates at Penick! Our many years of experience in this field are ready to assist you in building better products through better flavors.

* ®

Basic Products for the Pharmaceutical Industry

S. B. PENICK & COMPANY

50 Church St., New York 7, N.Y.
Telephone: COrtlandt 7-1970

735 West Division St., Chicago 10, Ill.
Telephone: MOhawk 4-5651

● Let MM&R put these powerful urges-to-buy in your product. Get a taste of the sales success MM&R customers enjoy . . . pay mere cents for scents that give your product a "million dollar" appeal. Since 1895, MM&R has been boosting drug and cosmetic sales by giving products a pleasanter taste or odor.

MM&R will gladly help you put your product on the best seller list.

* * *

Write for complete listing on MM&R Essential Oils, Perfume Oils, Flavors, Odor Neutralizers, Balsams, Oleoresins and Certified Colors — all premium-quality, all modest in cost and all proven sales builders.

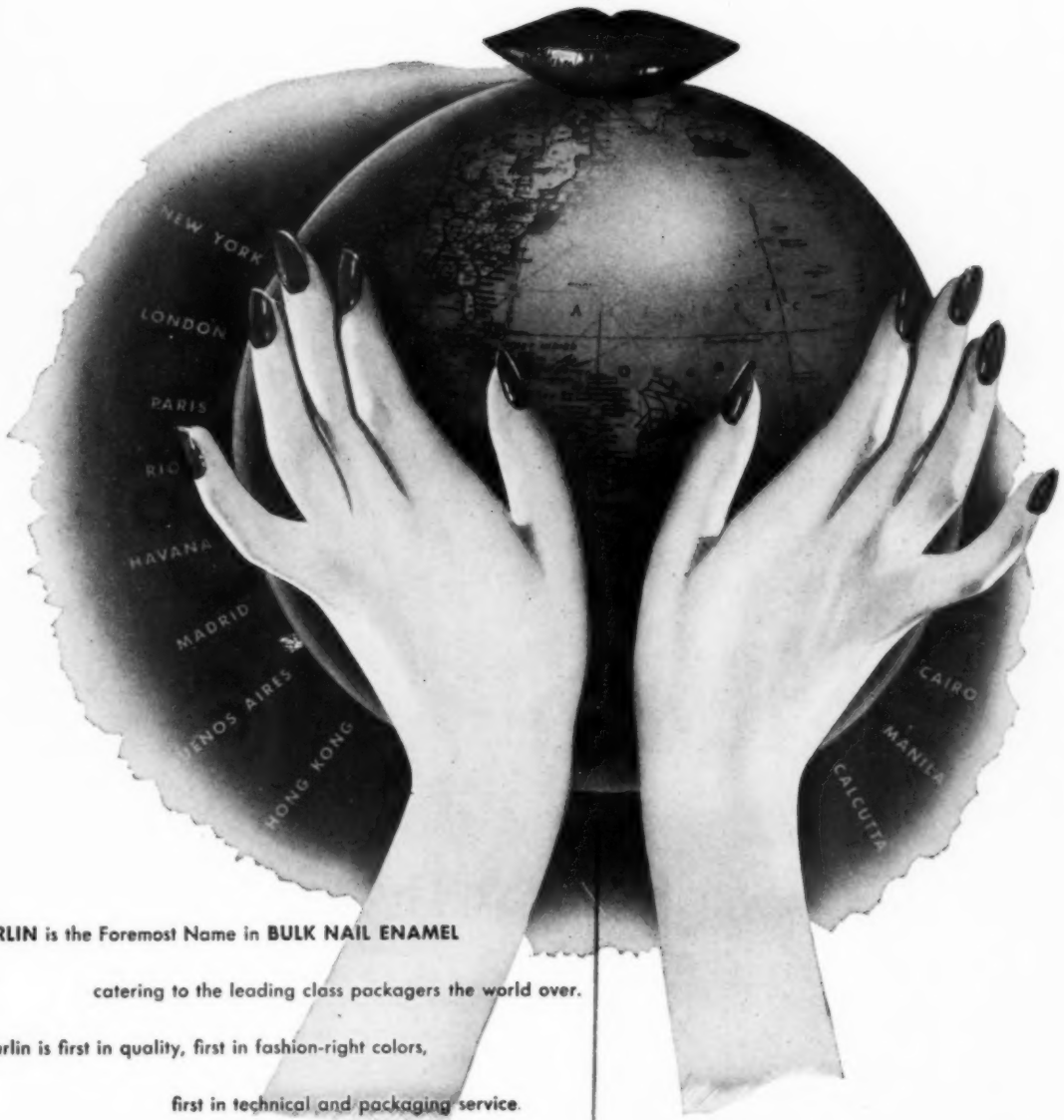
M&R MAGNUS

Magnus, Mabee & Reynard, inc.

Since 1895 **ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS**

16 Desbrosses Street, New York 13, N. Y. · 221 North La Salle Street, Chicago 1, Illinois

Glamorous Hands Around the World...



DURLIN is the Foremost Name in **BULK NAIL ENAMEL**

catering to the leading class packagers the world over.

Durlin is first in quality, first in fashion-right colors,

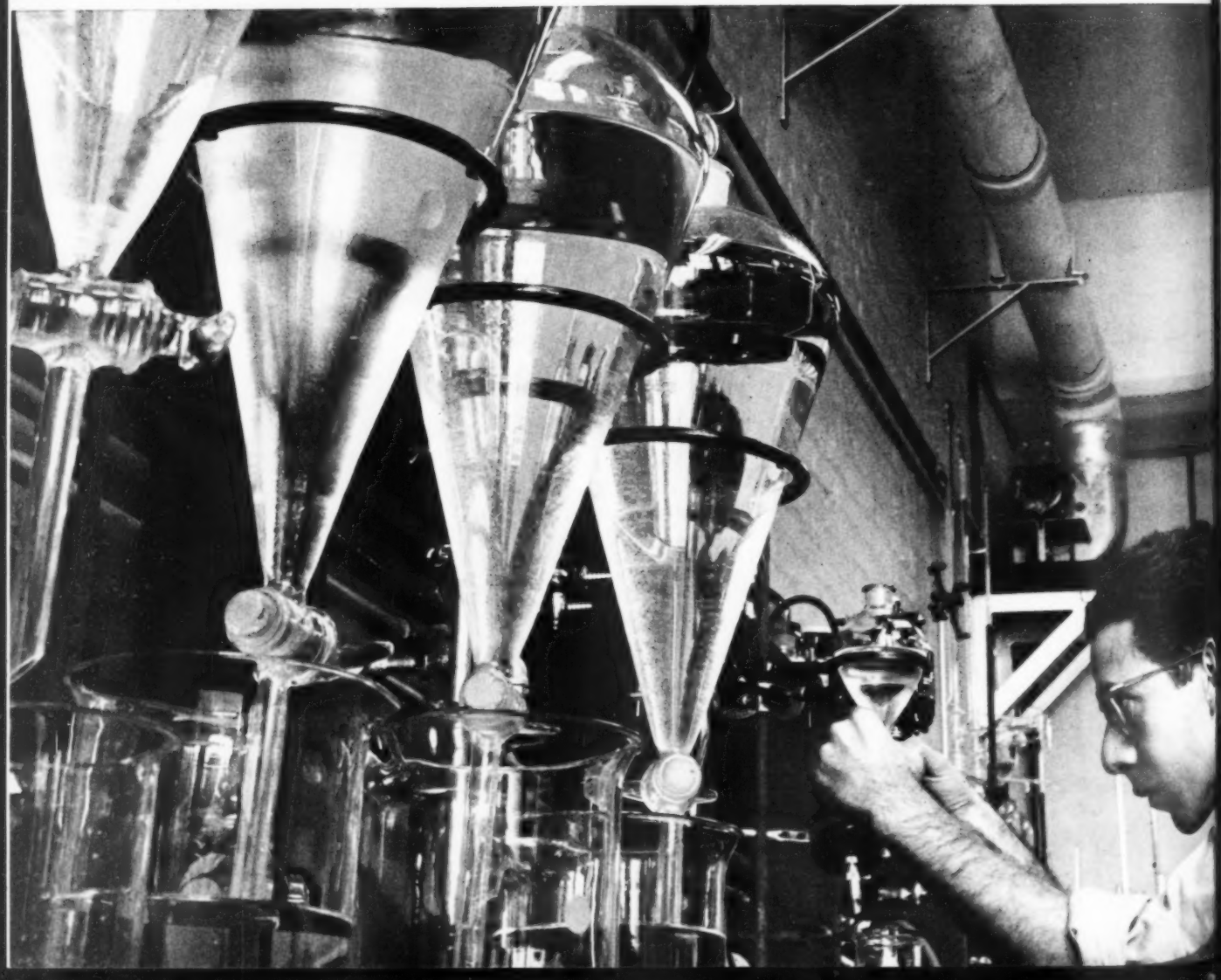
first in technical and packaging service.

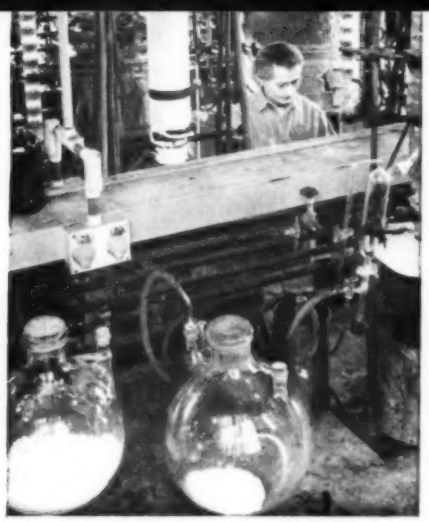
glamorous hands *around the world...*

DURLIN CO.

744 BROAD STREET
NEWARK 2, NEW JERSEY
Cable Address: Durlin Newark Newjersey

because of Givaudan's





CONTINUOUS RESEARCH...

new and finer materials are constantly being made available to broaden the scope of your abilities as a creative perfumer and to advance the quality and variety of your fragrances.

"Yours For Quality
In All Things Fragrant"

Givaudan-Delawanna, Inc.

330 West 42nd Street, New York 36, N. Y.

Branches: Philadelphia • Boston • Cincinnati • Chicago • Seattle • Los Angeles • Toronto

UNIFORM SMOOTHENER, THICKENER, STABILIZER

New information on the use of cellulose gum (Hercules® CMC) is now available upon request. Based on recent research findings, it lists the special advantages of cellulose gum in lotions.

Cellulose gum meets the specifications of the Toilet Goods Association.

HERCULES **CELLULOSE GUM**

HERCULES POWDER COMPANY Cellulose Products Department, 970 Market Street, Wilmington 99, Delaware

CM52-15

Since 1768

Engraving eighteenth century

Founded in the glamorous period preceding the French Revolution, the House of Antoine Chiris has, since 1768, stood for high quality standards in the Essential Oil and Aromatic Industries.

Its exclusive occupation since its inception is producing of Essential Oils, Floral Absolutes and Aromatic Specialties—from materials garnered the wide world over, many grown on Chiris' own plantations.

THE INTEGRITY OF CHIRIS PRODUCTS HAS WITHSTOOD THE TEST OF TIME.

GRASSE PARIS NEW YORK LONDON SAO PAULO

In each city there is a Chiris organization pooling all the experience and technical resources of nearly 200 years of activity in the world's Essential Oil and Aromatic Industries.

We regard it as a privilege to consult on your aromatic problems. Our creative laboratories are at your service.

ANTOINE CHIRIS Co., Inc.

220 EAST 23rd STREET, NEW YORK 10, N. Y.

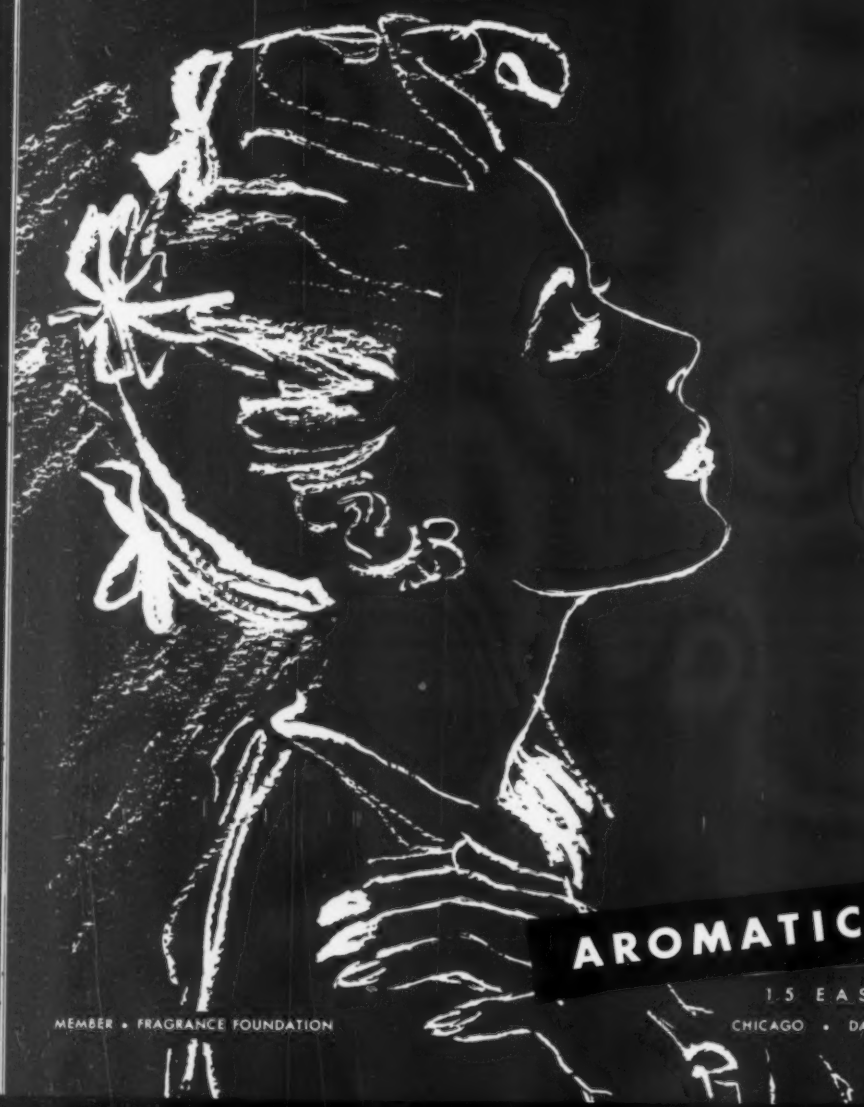
GRASSE • PARIS • LONDON • SAO PAULO

A NEW PERFUME OIL CONCENTRATE . . .

Cherine

–the lighthearted fragrance

Want to give your perfumes and toiletries new sell-ability? *Scent them with CHERINE!* This light, gay, French-type fragrance is ideal for perfumes, toilet waters, stick colognes, sachets, powders, hand lotions and creams. Cherine's pleasing feminine fragrance appeals to youthful women of all ages. Its amazingly low price of $9.50 per pound makes it extremely economical to use in all of your cosmetics. We'll be glad to send you samples for your own tests . . . no obligation, of course.



AROMATIC PRODUCTS, INC.

15 EAST 30th STREET • NEW YORK 16

CHICAGO • DALLAS • MEMPHIS • PITTSBURGH • LOS ANGELES • BOSTON

MEMBER • FRAGRANCE FOUNDATION

For Your High-Purity Process Needs···

Specify B&A FINE and SPECIAL CHEMICALS

STANDARD OF PURITY

The following are but a few of the many B&A Fine Chemicals available in tonnage quantities for high purity process use. They are charted to indicate some of the major industries in which they are used.

CHEMICAL	Battery	Chemicals	Dyes & Intermediates	Electronics	Explosives	Food	Glass & Ceramics	Iron & Steel	Leather	Metal Fabricating & Finishing	Mining & Metallurgy	Oil Refining & Petroleum	Paints & Pigments	Pharmaceuticals	Photography	Plastics & Resins	Pulp & Paper	Rubber	Soap & Detergents	Textiles	Water Treatment
Acetamide		●	●										●			●					
Acid Fluoboric	●	●		●			●	●	●	●	●	●	●			●					
Acid Hydrofluoric, Reagent		●		●			●			●	●										
Alkali Fluoborates							●	●		●	●										
Aluminum Chloride, Solution		●	●			●	●		●	●	●	●	●	●		●	●	●	●	●	
Aluminum Fluoride, Crystal		●								●		●		●							
Aluminum Nitrate		●		●								●							●		
Ammonium Acetate						●				●		●		●			●		●		
Ammonium Oxalate			●		●				●	●			●	●		●	●		●		
Ammonium Sulfate Purified and Reagent A.C.S.	●	●				●	●		●	●				●		●	●			●	
Ammonium Thiosulfate				●					●	●				●	●				●		
Boron Trifluoride Gas and Various Complexes		●								●	●	●	●	●		●		●		●	
Cadmium Nitrate	●	●		●			●					●	●			●					
Calcium Acetate Purified and Reagent		●				●							●	●		●		●	●		
Calcium Chloride, Anhydrous Purified and Reagent A.C.S.				●		●										●					
Calcium Phosphide					●						●										
Chlorine Trifluoride		●														●					
Chromium Fluoride		●	●							●			●						●		
Chromium Nitrate		●														●					
Chromium Potassium Sulfate (Chrome Alum)		●	●						●					●	●		●			●	
Cupric Nitrate		●	●		●			●		●					●					●	
Cuprous Chloride	●	●	●		●						●	●	●	●		●				●	
Ferric Nitrate			●						●											●	
Ferrous Ammonium Sulfate		●	●							●								●			
Lead Nitrate		●	●		●				●		●	●	●	●	●		●		●	●	
Metal Fluoborates										●					●						
Oxamide					●																
Potassium Acetate		●		●					●	●				●		●	●			●	
Potassium Bifluoride		●		●			●			●										●	
Potassium Borate, Tetra										●											
Potassium Fluoride		●								●											
Potassium Nitrite		●	●			●				●		●						●	●		
Potassium Permanganate																					●
Potassium Titanium Fluoride											●							●			
Sodium Bisulfite, Meta Purified and Reagent						●									●					●	
Sodium Fluoride, Reagent A.C.S.								●						●							
Stannous Chloride		●	●					●	●	●				●					●	●	
Sulfur Hexafluoride				●																	

WRITE TODAY for a complete listing of B&A Fine Chemicals.

BAKER & ADAMSON *Fine Chemicals*

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

We have a large selection of compounds especially blended for use in facial and hand creams. They have been thoroughly tested, are non-toxic and guaranteed not to discolor; they will also cover up the odor of Lanolin when used in creams. From these, we are featuring to-day:

MUGUET DE MAI 233

which will impart the true
natural Muguet Flower
fragrance to your preparation

FRESH - LASTING - ECONOMICAL

ROURE-DUPONT, INC.

ESSENTIAL OILS, AROMATIC CHEMICALS AND PERFUME BASES

GENERAL OFFICES
366 MADISON AVENUE, NEW YORK 17, N Y.

CHICAGO BRANCH
510 NORTH DEARBORN

LOS ANGELES BRANCH
5317 SUNSET BOULEVARD HOLLYWOOD

SOLE AGENTS IN UNITED STATES AND CANADA FOR
ROURE-BERTRAND FILS et JUSTIN DUPONT
GRASSE (A. M.) FRANCE ARGENTEUIL (S. & O.) FRANCE

UNIFORMITY · OUTSTANDING PURITY · OUTSTAN
ALITY · OUTSTANDING UNIFORMITY · OUTSTANDIN
TSTANDING PURITY · OUTSTANDING QUALITY · OU
Sonneborn
WHITE OILS
U.S.P. N.F. TECHNICAL
PETROLATUMS
U.S.P.
PETROLEUM
SPECIALTIES
Achieved by
Sonneborn
RESEARCH
FOR TECHNICAL INFORMATION WRITE:
L. SONNEBORN SONS, Inc., 300 Fourth Ave., New York 10, N. Y.

Over 80 years ago, John Herman Pine first recognized, through self-treatment of a throat irritation, the demulcent . . . emollient . . . and hygroscopic properties of U.S.P. Glycerine. Today, Glycerine and Pine Bros. are virtually synonymous to a large segment of the general public . . . and consumer interest and acceptance is steadily increasing, as reflected in years of continuous sales increases.

FULLY ACCEPTED . . . FULLY AVAILABLE IN ALL GRADES!

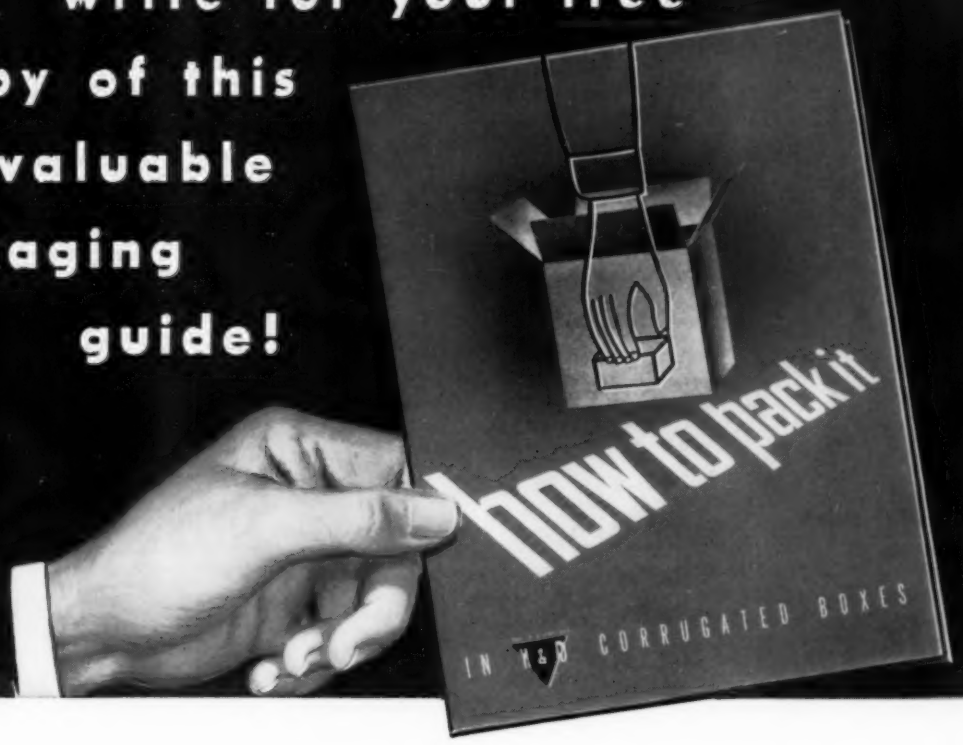
U.S.P. Glycerine serves the manufacturer of pastilles, confections and foodstuffs in a variety of ways! For instance, it acts as an ideal vehicle and blending agent for the five flavors that now make up the Pine Bros. family. Each tablet is uniform in appearance . . . uniform in taste! And versatile Glycerine—blended with Acacia, flavoring and other components—serves as a natural sweetener as well!

U.S.P. Glycerine, as a solvent and extractant for base flavors, is widely favored by extract manufacturers. It adds smoothness to mixtures . . . and distributes flavors uniformly. Even in the field of packaging materials, Glycerine has come to be an important component of wraps that come in contact with food products.

So it is today with dozens of familiar food brands . . . U.S.P. Glycerine often performs two or more functions—preserving freshness or making food products more palatable. In every instance, Glycerine is used with absolute confidence, since *it is actually a wholesome nutrient for food use!* "Why Glycerine for Foods?" tells the story of these many applications . . . why not write for a copy?

GLYCERINE PRODUCERS' ASSOCIATION
295 Madison Avenue, New York 17, N. Y.

write for your free copy of this valuable packaging guide!



whatever you manufacture . . .

it's definitely worth your while to have this informative H & D book. To obtain a copy, mail the coupon below.

"How To Pack It" will save you time, money and headaches on countless shipping and packaging problems. Package Engineers everywhere use it as a handy reference manual . . . as a catalogue of valuable data on corrugated boxes. You'll find it valuable, too, as an idea-stimulator; it may suggest an improved packing program for your product . . . a program of better product protection, reduced packing costs, increased sales! Write, or mail coupon below, to HINDE & DAUCH, 0000 Decatur Street, Sandusky, Ohio for your free copy.

H&D®

HINDE & DAUCH

Authority on Packaging

Akron, Baltimore, Battle Creek, Mich., Bloomington, Ill., Buffalo, Chicago, Cincinnati, Cleveland, Columbus, Denver, Detroit, Fairfield, Conn., Findlay, Ohio, Gloucester City, N. J., Greensboro, N. C., Hoboken, Indianapolis, Jamestown, N. Y., Kansas City, Lenoir, N. C. Minneapolis, Omaha, Plymouth, Ind., Reading, Pa., Richmond, Va., Roanoke, Va., Rochester, Sandusky, Ohio, Shrewsbury, Mass., St. Louis, Toledo, Watertown, Mass.

THIS CONDENSED CATALOGUE OF CORRUGATED PACKAGING DATA CONTAINS INFORMATION ON:

1. SHIPPING BOXES
2. DISPLAY BOXES
3. SPECIALTY BOXES
4. LUGGAGE TYPE BOXES
5. MERCHANDISING BOXES
6. HEAVY DUTY BOXES
7. GIFT BOXES

mail today!

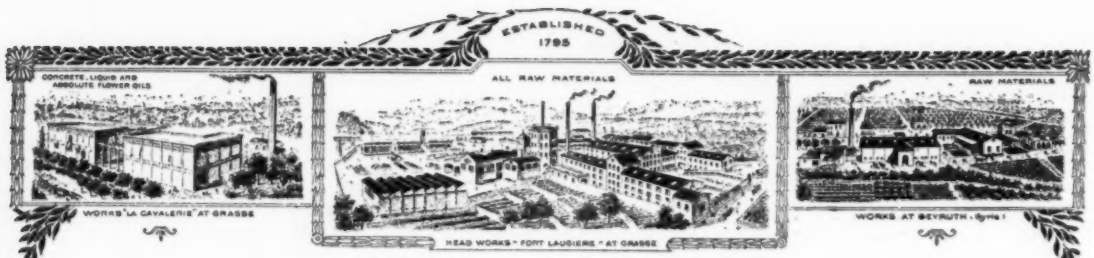
HINDE & DAUCH, 3577 Decatur Street, Sandusky, Ohio
Please send me a free copy of "How To Pack It."

NAME_____ TITLE_____

COMPANY NAME_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____



LAUTIER FILS

GRASSE, FRANCE

Natural Flower Absolutes
Essential Oils, Concentrated Natural Fixatives
Synthetic Aromatics

MOUSSE ODORANTE

A superior quality Oak Moss intended for fine perfumery.

MOUSSE D'ARBRE

The standard LAUTIER FILS quality Oak Moss for use in popular priced perfumes and soaps.

LAUTIER FILS also offers the above qualities with most of the color removed.

MOUSSE de CHENE BLONDE
MOUSSE D'ARBRE BLONDE

The raw Oak Moss is carefully selected to conform with LAUTIER FILS specifications. It is processed at the Grasse factories by time-proven methods

SANTAL des INDES ORIENTALES

LAUTIER FILS Sandalwood Oil East Indian is distilled at our Grasse factories from selected raw Sandalwood.

LAUTIER FILS, INC.

321 Fifth Avenue — New York 16, N. Y.

GRASSE PARIS LONDON BEYROUTH CHICAGO ST. LOUIS SANTIAGO

FELCAFE, FELTON'S NEW COFFEE IMITATION, ACCLAIMED COAST TO COAST!

Conclusive Tests by Manufacturers of a Wide Variety of Products Prove Its Advantages in Flavor, Aroma and Economy

As a result of several years of research and development, Felton Chemical Company chemists have produced a new coffee flavor that has revolutionized the use of coffee in many products. Candy, ice cream and baked goods manufacturers have long been aware of the handicaps presented by the lack of stability of coffee flavor concentrates, and it was this problem which Felton tackled first. Literally hundreds of new chemicals were isolated in the search for proper ingredients, and at least fourteen new specific aromatics were developed.

75 Times Stronger Than Coffee

Felcafé has been found to be at least 75 times stronger than coffee, and its economy is quickly obvious to any manufacturer. Thousands of batch tests have been made, not only by Felton, but by manufacturers using flavors, and based on the commercial conditions of manufacture in the candy, ice cream, dessert, beverage and extract fields. Felcafé has proven its record-breaking economy.

Will Not Cook or Freeze Out

Felton's unusual flavor is non-volatile, and its stability eliminates any worry about cooking off or freezing out. Neither does it oxidize or become rancid.

Candy Manufacturers Applaud Advantages

Felcafé retains its full-bodied flavor in Hard Candy, Toffee, Caramels, Fudge, Soft Centers, Creams and Fondants, Marshmallows, Gum, Starch Jellies, Chocolate.

Ideal for Foods and Desserts

Popular coffee flavor can now be successfully applied to Ice Cream, Ices and Sherbets, Packaged Ice Cream Mixes, Puddings, Syrups, Beverage Concentrates, Gelatin, Pie Fillihgs, Cake Fillings, Icings, Toppings, Sandwich Fillings, Carbonated Beverages, Extracts.

Versatility of New Flavor for Pharmaceuticals

Coffee as a flavor for pharmaceuticals can be a big factor in the success of all kinds of products such as Pharmaceuticals, Lozenges, Troches, Vitamin Tablets, Cough Syrup, Elixirs.

Write For Samples of This Amazing Coffee Flavor

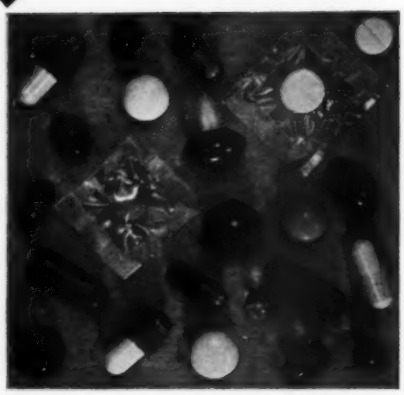
Tell us about the products in which you would like to use Felcafé. We will be happy to send you directions and liberal samples for testing.

FLAVORS • ESSENTIAL OILS • AROMATICS

FELTON CHEMICAL COMPANY, INC.
599 Johnson Avenue, Brooklyn 37, N. Y.
PLANTS: Brooklyn, N. Y. • Los Angeles, Cal. • Montreal, Que. • Paris, France
SALES OFFICES: Atlanta • Boston • Chicago • Dallas • Philadelphia
St. Louis • Toledo • Toronto

Stocks Carried in Principal Cities

. . . . . of Gem Value



Fine jewelers refer to the "gem value" of precious stones . . . Kimberley blue-white diamonds for instance. Year in and year out they are always of predictable, stable value . . . vastly different from synthetic or imitation stones. Gems are never cheap, but always an investment.

In the years in which Strong Cobb has led in the development of the private formula division of the drug and pharmaceutical industry, we have never compromised with quality . . . We have never sold imitation "stones" for those of "gem value." And the market for the products we manufacture is as stable as the value of a Kimberley blue-white.

Tablets • Capsules • Liquids • Ointments

Whatever shape your product takes—you'll be in better shape if Strong Cobb manufactures it for you. Talk it over with our Technical Sales Director!

ORIGINATORS AND DEVELOPERS OF THE AMPIN® FOR AUTOMATIC, SUBCUTANEOUS AND INTRAMUSCULAR INJECTION

PHARMACEUTICALS SINCE 1833

STRONG COBB

Strong Cobb & Co. Inc.

2654 LISBON ROAD, CLEVELAND 4, OHIO

IN CALIFORNIA: 12912 Chadron Ave., Hawthorne, Cal.
IN CANADA: Strong Cobb of Canada, Ltd., 388 St. Paul St., W., Montreal

IN DRUGS AND PHARMACEUTICALS

SEEING IS BELIEVING

fine color

fine quality

If there's one place where the finest quality pays off, it is in the coloring of drugs and pharmaceuticals. Attractive color is *visible evidence of unseen quality!*

For many many years, the most respected firms in the drug and pharmaceutical industry have used *National Certified Colors.* From experience they know that, over and above the minimum necessities for certification, *National Certified Colors* are distinguished for absolute uniformity of composition, shade and strength.

So to be sure of your product's color, specify NATIONAL CERTIFIED COLORS

National

CERTIFIED COLORS

CERTIFIED COLOR DIVISION

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

world wide and world renowned

the facilities and products of Firmenich, yours to employ
and enjoy in the creation of your own specialties. Your partnership with
Firmenich allies you to a source of pure research,
honored for its outstanding achievements these sixty years;
companions you to chemists and perfumers
of rich experience and marked ingenuity.

FIRMENICH INCORPORATED

FIRMENICH & CIE
SUCCESSEURS DE
CHUIT, NAEF & CIE
GENEVE SUISSE

250 WEST 18TH STREET · NEW YORK 11

FIRMENICH OF CANADA, LIMITED, 348 WALLACE AVENUE, TORONTO · CHICAGO OFFICE: 612 NORTH MICHIGAN AVENUE · GENEVA · PARIS · LONDON

employ

ership with

earch,

y years;

rs

E D

W YORK 11

Blue pike and vitamin A_2

The vitamin A in the livers of blue pike and other fresh-water fishes differs by a few significant details in its chemical structure from the vitamin A found in marine fishes and in species that migrate between fresh and salt water. The fresh-water variety is vitamin A_2, and some years ago we decided to investigate it thoroughly.

We made arrangements with a local fish market to set aside 150 pounds of pike livers for us. Not quite trusting the harried lads in their back room, we checked the livers under ultraviolet, using the fact that A_1 fluoresces in brilliant yellow and A_2 in brownish orange. Thus we screened out a few ringers that had been tossed into the barrel. Then after a lot of work our chemists came up with crystallized vitamin A_2 —the first ever produced.

Since blue pike and the rest of the A_2 group can see farther into the infrared, this involved us during the war in a project to sensitize the eyes of military personnel to infrared signalling. The experiment had only limited success, but we learned more about the absorption and metabolism of A_2.

We're not in the business of shipping bulk quantities of vitamin A_2, but we do such work in order to accumulate the largest possible collection of reliable answers to vitamin A questions. If you have any that concern the formulation and utilization of your products, please feel free to bring them to us.

We produce both natural and synthetic vitamin A (A_1, that is) in a wide range of potencies, and quotations are made by mail, wire, or phone. ***Distillation Products Industries,*** 791 Ridge Road West, Rochester 3, N. Y. (Division of Eastman Kodak Company). Sales offices: New York and Chicago • W. M. Gillies & Co., Los Angeles and San Francisco • Charles Albert Smith Ltd., Montreal and Toronto.

DPi

leaders in research and production of both natural and synthetic vitamin A

Also . . . vitamin E . . . distilled monoglycerides . . . high vacuum equipment . . . more than 3500 Eastman Organic Chemicals for science and industry

FOR DESIGNS ON A PARTICULAR MARKET

The chemicals you specify for your product are basic in your marketing plan. Let NYQ help select the right chemicals with the proper physical characteristics to build the best product.

Since 1886, we've made it our business to help make things easier for many leading industrial, pharmaceutical and feed manufacturers. A full line of over 2,000 fine chemicals . . . from NYQ to you.

NYQ®

THE FULL LINE FINE CHEMICAL HOUSE

The New York Quinine & Chemical Works, Inc.

GENERAL OFFICES

50 Church Street, New York 7, N. Y. • 6399 Wilshire Boulevard, Los Angeles 48, Calif. • 729 West Division Street, Chicago 10, Ill.

How to give your business *the odor of SUCCESS...*

USE
ORBIS
PERFUME
CONCENTRATES
TRY SERIES
No. 300

CHOOSE FROM THESE ORBIS ODORS AT THE USUAL LOW ORBIS PRICES

Bouquet CH	Jockey Club
Bouquet TB	Lavender
Bouquet Kashmiri	Lilac
Carnation	Millefleurs
Chypre	Muguet
Cologne	Narcisse
Divinia	New Mown Hay
Florida	Rose
Gardenia	Sweet Pea
Heliotrope	Violet
Honeysuckle	Wistaria
Jasmin	

PRICES ALWAYS UNIFORM

25 and 50 lb. lots	$3.00 per lb.
5 lb. bottles	3.15 per lb.
Trial Pounds	3.25 per lb.

Cosmetic Raw Material	Essential Oils	Stearic Acid
Water Soluble Gums	Fruit Flavors	Aromatics
Food Colors	Quince Seed	Thymol
Perfume Bases	Oleo Resins	Waxes

Rely on Orbis economy to cut costs of making your inexpensive perfumed products. Rely on Orbis quality to keep your customers happy. Manufacturers' samples gladly sent . . . ask for samples of Series No. 300 today.

ORBIS
PRODUCTS CORPORATION
215 PEARL STREET
NEW YORK

NEW YORK
CHICAGO
BOSTON
MEMPHIS

Beauty Fashion

Provides a straight line to the most profitable points of sale.

1 *Reaches the retailers who know how to sell perfumes and cosmetics and who do sell well over 80% of these products, except low priced, mass distributed toiletries.*

2 *These retailers are nearly all (86%) located in the 168 metropolitan markets which do 75.27% of all apparel sales and over 85% of the perfume and cosmetic sales of selected cosmetic distribution.*

3 *The key to selling in these stores is the girl behind the counter. Beauty Fashion's club subscription, editorial policy, school training program and personal contacts have, over 35 years, made these girls an intimate part of Beauty Fashion's readers.*

101 West 31st Street, New York 1, N. Y.
Phone: LOngacre 5-3177

G-11®

(*brand of hexachlorophene*)

the first and only proven, effective and non-irritating antiseptic chemical for soaps

Are you taking advantage of the tremendous opportunities G-11 offers for increasing the sales of your cosmetics? The market for toiletries offering the hygienic safeguards and deodorizing effectiveness assured by G-11 is virtually unlimited! G-11 has been proved by years of safe, successful use in such products as . . .

creams and lotions — **deodorant colognes, creams and sticks**
hair preparations — **baby products** — **after-shave lotions**
antiseptic and deodorant foot powders — **dusting powder**
soaps and detergents

A bulletin will be sent on request.

SINDAR® Corporation
Industrial Aromatics and Chemicals

330 West 42nd Street • New York 36, N. Y.
Branches: **Philadelphia, Boston, Los Angeles, Cincinnati, Detroit, Chicago, Seattle, Toronto**

Hexachlorophene is a development of Sindar Research Laboratories

THE RIGHT OIL FOR YOU MUST HAVE . . . .

UNIFORMITY
STRENGTH
QUALITY

Thousands of buyers know that Exchange Oil of Orange meets these qualifications consistently. They know that rigid, day-to-day laboratory control, combined with years of experience as the leader in the citrus products field, guarantees that Exchange Oil of Orange will always meet their most critical specifications.

Distributed in the United States exclusively by

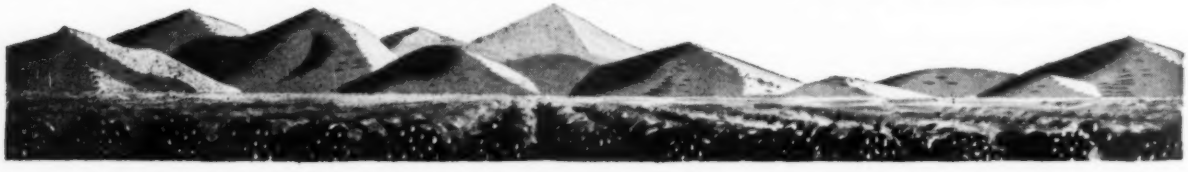
DODGE & OLCOTT, INC.
180 Varick Street, New York 14, N. Y.

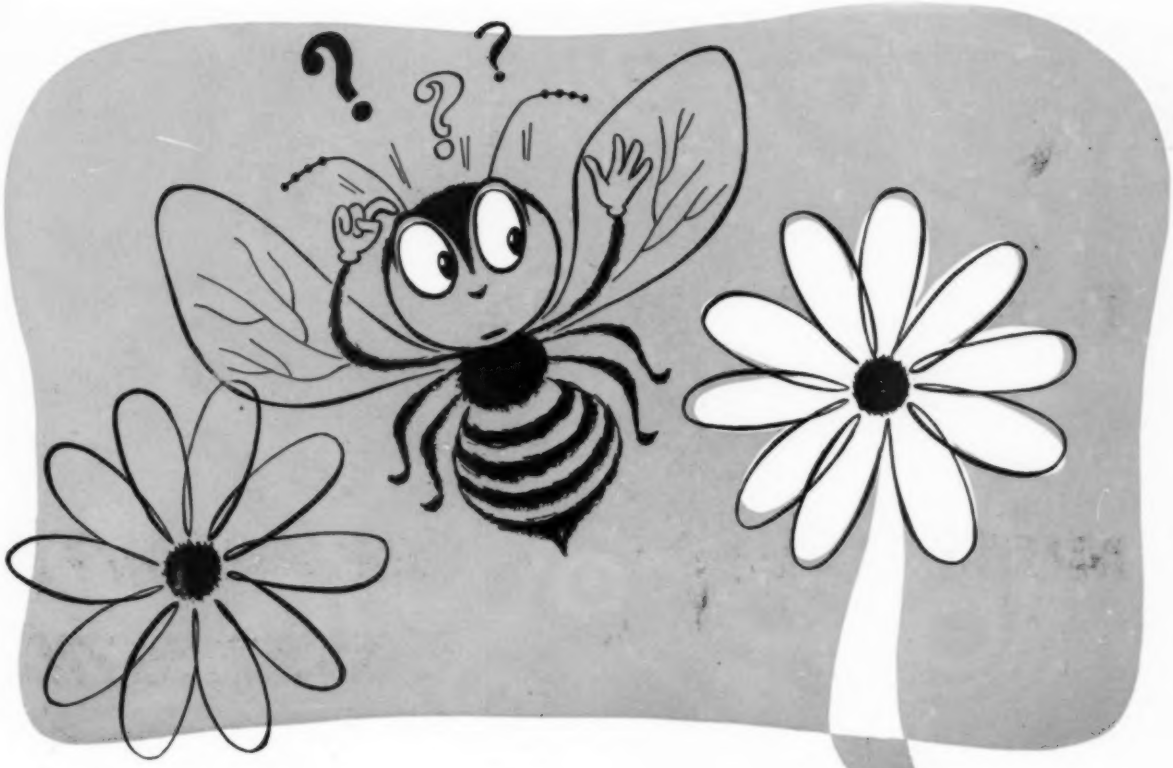
•

FRITZSCHE BROTHERS, INC.
76 Ninth Avenue, New York 11, N. Y.

Exchange
OIL OF
ORANGE
U.S.P.

SUNKIST GROWERS
PRODUCTS DEPARTMENT • ONTARIO, CALIFORNIA
PRODUCING PLANT:
The Exchange Orange Products Co., Ontario, Calif.





Why are **DREYER SYNTHETIC SCENTS** quite baffling to a bee?

A bee could well have trouble telling the difference between a Dreyer Perfume Scent and Nature's original flower odor it authentically duplicates.

What's more, the stability, substance, long-lasting body, and uniformity of Dreyer Floral Creations and Bouquets often make them more satisfactory than the originals.

Quality perfume products cost you less to produce, with Dreyer Odors. Dreyer's stabilized prices mean extra nice profits. Prove it by sending today for the whole story of Dreyer Perfume Creations.

P. R. DREYER Inc.

119 WEST 19th STREET, NEW YORK 11, N. Y.

Depend on DREYER

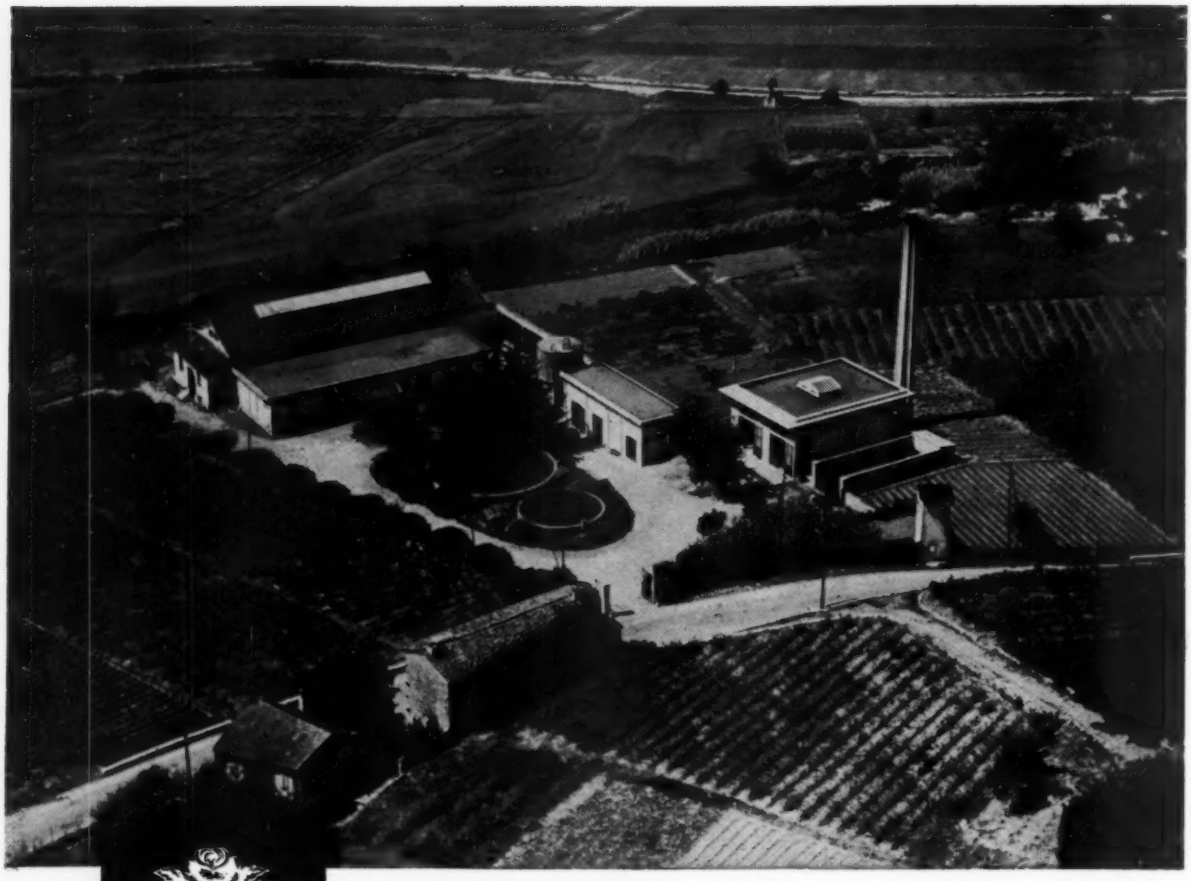
for Essential Oils,
Aromatic Chemicals, Perfume Compounds

Please send your catalogue of Dreyer Synthetic Scents. I'm especially interested in samples of.....

.....

YOUR NAME..... YOUR COMPANY.....

STREET ..... CITY..... ZONE..... STATE.....



Factory No. 2 "in the heart of the flower fields"

Bertrand Frères

SOCIÉTÉ ANONYME

GRASSE, FRANCE

MIMOSA ABSOLUTE
ROSE DE MAI ABSOLUTE
ORANGE ABSOLUTE
JASMIN ABSOLUTE
LAVENDER "Revest"
LAVANDIN
GERANIUM—African & Bourbon
OAK MOSS—Green & Colorless

Bertrand Frères, Inc.

111 Broadway, New York 6, N. Y.

ELIMINATE RANCIDITY WORRIES!

Peroxide Value* Tests Prove SUPERIOR OXIDATION RESISTANCE of EMERSOL STEARIC ACIDS

Keep YOUR Products Fresh and Appealing with Emersol Stearic and Palmitic Acids!

Don't take chances on the sales appeal of your products! Buy the added assurance of freedom from product rancidity with Emersol Stearic and Palmitic Acids.

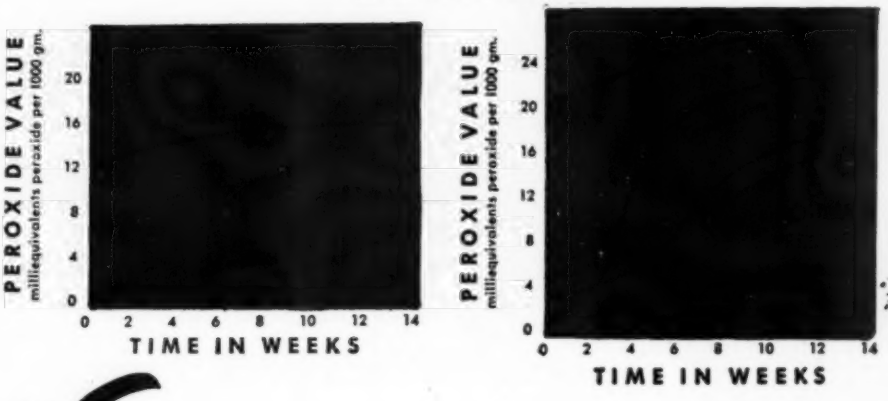
Peroxide value test results during aging illustrate the *superior oxidation resistance* of the Emersol Stearic Acids. Because you get this *extra* stability at no extra cost, you can't pass up the opportunity to be sure that your products have *maximum* stability and freedom from rancidity.

Next time, and everytime, buy Emersol Stearic and Palmitic Acids!

**Peroxide Value indicates the quantity of peroxides which are present in fatty products as the result of oxidation reactions. Therefore, lower peroxide values indicate greater resistance to oxidation.*

PEROXIDE VALUE DATA

Stored at room temperature—Flake form



Emery

Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

EXPORT: 5035 RCA Bldg., New York 20, N.Y.

Branch Offices
3002 Woolworth Bldg., New York 7, N. Y.
401 N. Broad St., Philadelphia 8, Pa.
187 Perry St., Lowell, Mass.
221 N. LaSalle St., Chicago 1, Ill.
420 Market St., San Francisco 11, Calif.

Represen...
Schibley ...
33 Public ...
Cleveland, ...
Ecclestone Chem...
2673 Guoin, ...
Detroit 7, Mich.
Warehouse stocks ...
Buffalo, Baltimore ... ities

NEED
IMPROVED LUBRICATION
to speed up <u>your</u> processing?
CYANAMID STEARATES

Cyanamid Stearates do many jobs, and do them well. For metal molding powders, cosmetics and drugs they act as excellent internal lubricants. For plastics and rubber, they are first-rate mold lubricants.

This versatility extends into other fields, too. Cyanamid Stearates improve suspension in paints, enamels and printing inks . . . act as flatting agents for varnishes and lacquers . . . produce greases with superior lubrication properties.

For added convenience and protection, quality-controlled Cyanamid Stearates are available in multi-wall bags.

Write today for booklet describing Cyanamid Stearates.

A Complete Line of Cyanamid Stearates: Calcium • Aluminum • Zinc • Magnesium . . . for paints, lubricants, plastics, inks, rubber, cosmetics and other uses.

AMERICAN *Cyanamid* COMPANY
INDUSTRIAL CHEMICALS DIVISION, DEPT. DC9
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

In Canada: North American Cyanamid Limited, Toronto and Montreal

Hooker Chemical Guide
(ONE OF A SERIES)
USE this handy reference to save time in selecting high quality chemicals.

HOOKER CAUSTIC SODA

50% LIQUID	FLAKE
73% LIQUID	SOLID

Used in these products and processes:

wood pulp
soap
glass
chemical intermediates
phenol
resorcinol
naphthol
oxalic acid
indigo
sodium salts
pigments
aniline dyes
ceramics
pharmaceuticals
cosmetics
viscose rayon
cleaning compounds
reclaiming rubber
mercerizing cotton
reclaiming tin
food processing
reclaiming paper
metal ore refining
bleaching textiles
petroleum refining
dyeing textiles
engraving
printing textiles
lithography
water softening
and many, many others

DEPENDABLE DELIVERIES

When you order chemicals from Hooker, you know that you are dealing with a reputable, dependable supplier. You can count on prompt deliveries, timed to fit your production schedule.

GROWING...TO SERVE YOU BETTER

New Chicago Office—To better serve Midwestern chemical users, Hooker has recently opened an office at 1 North LaSalle Street in the heart of Chicago's Loop. Midwestern users need only call Chicago, CEntral 6-1311, to receive fast shipment from the main plant at Niagara Falls. Hooker technical personnel will also be stationed at the Chicago office to assist you with your chemical requirements.

New plant at Montague, Michigan—In addition to the existing plants at Niagara Falls and Tacoma, Hooker is building a plant at Montague, Michigan which will increase chlorine and caustic soda production by 100,000 tons per year. Construction will be completed in 1953. This plant will further speed deliveries to Midwestern users.

Research and development—Over 100 regular products, and many more research products, have been made available through Hooker's specialized experience in chlorination, hydrogenation, esterification, sulfhydration, hydrochlorination, and fluorination. Complete laboratory and pilot plant facilities are ready to serve you.

Products available now—Chlorine, muriatic acid, sodium sulfide, chlorobenzenes, and many other products are available for immediate shipment. For full information, write on your letterhead to *Hooker Electrochemical Company*, 13 Forty-Seventh Street, Niagara Falls, N. Y.

HOOKER ELECTROCHEMICAL COMPANY

NIAGARA FALLS, N. Y. • NEW YORK, N. Y.
TACOMA, WASH. • CHICAGO, ILL. • WILMINGTON, CALIF.

From the Salt of the Earth

HOOKER® CHEMICALS

2-1242

The Chemical Industry's Growing Responsibility . . .

EDUCATING AND INFORMING THE PUBLIC

YEARS AGO, the sole function of the chemical industry was considered to be the production of chemical compounds. In more recent times, research was recognized as an increasingly important responsibility of the industry.

Today, the chemical industry is undertaking a new responsibility—keeping the public more widely informed on research achievements and product developments that contribute to better health and better living.

The quickening tempo of world progress in chemistry adds new importance to cultivating good public relations on a broad scale.

In the field of medicinal agents, for instance, it is estimated that 60 per cent of the drugs sold today did not exist ten years ago—and 90 per cent of a typical cross-section of prescriptions written by physicians today could not have been filled as recently as fifteen years ago.

Added to this is the fact that the American public is constantly becoming better educated—better informed. People want to know about new developments that affect their health, their food, and the thousands of chemical products used in everyday living. They are entitled to this information.

It is a hopeful sign of the times that so many leading manufacturing chemists are recognizing this growing responsibility and are endeavoring to meet it by extending their educational programs to include the general public.

SCIENCE REPORT
Harvesting magnesium from the sea
Buried treasure in the ocean—
5 million tons
to the cubic mile
From childhood days, exploring the mysteries of the sea always has been a fascinating pursuit. Today, science has transformed dreams of buried treasure into reality by developing a practical process for large-scale recovery of magnesium salts from the ocean. A cubic mile of sea water contains more than five million tons of this essential element.
Magnesium compounds are key ingredients in such well-known products as milk of magnesia, citrate of magnesia, and antacid powders—and are extensively used in making steel, rubber, and ink. Through its Marine Magnesium Products Division, Merck plays a pioneering role in harvesting magnesium salts from the sea.
Chemicals for industry and the professions—magnesium, bismuth, iron and silver salts, and many other compounds . . Vitamins for bread and flour enrichment . . Antibiotics to control infections and to improve farm feeds . . Cortisone to combat arthritis, certain eye diseases, and other afflictions . . these are direct results of the continuous Merck program of research and production devoted to modern living and to helping physicians conquer disease.
Research and Production for the Nation's Health
MERCK
MERCK & CO., Inc.
Manufacturing Chemists
RAHWAY, NEW JERSEY

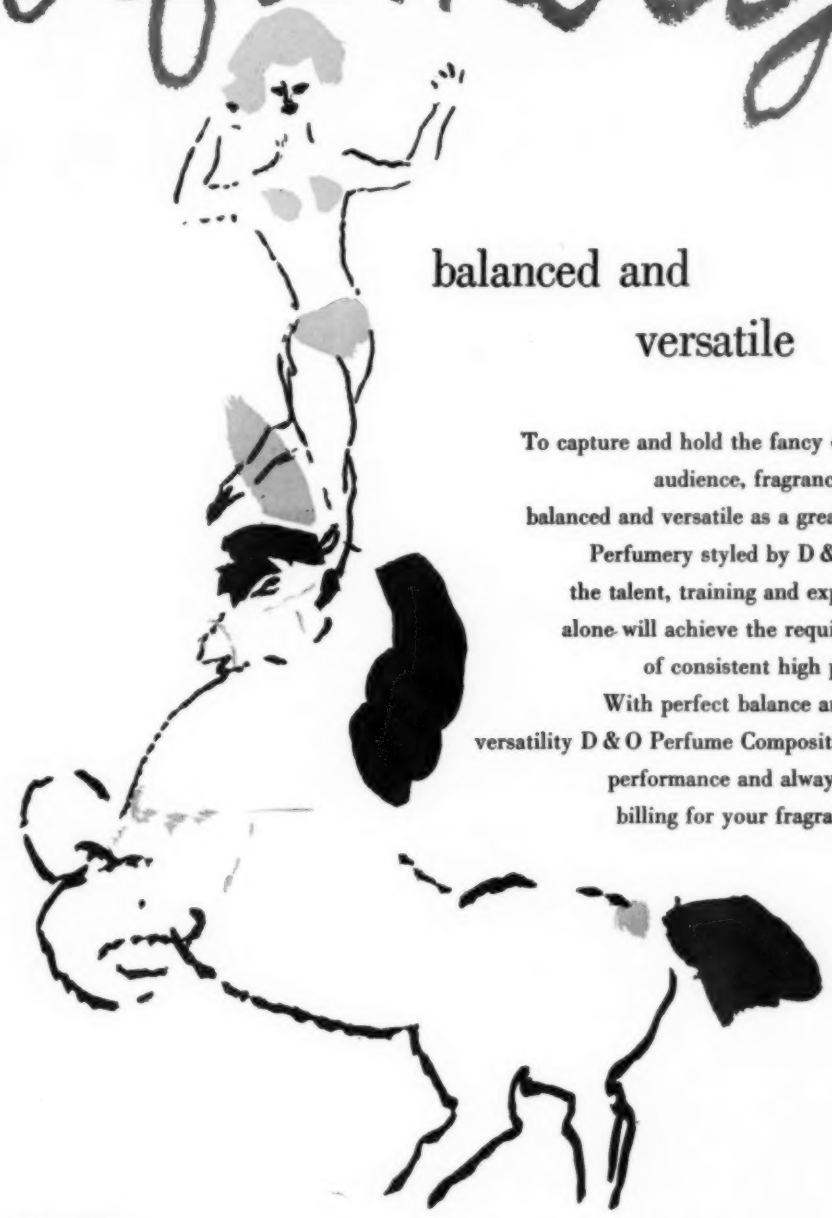
This is one of a series of Science Report *advertisements currently appearing in national magazines. The campaign is designed to provide information on significant chemical advances.*

Research and Production for the Nation's Health

MERCK

MERCK & CO., Inc.
Manufacturing Chemists
RAHWAY, NEW JERSEY
In Canada: MERCK & CO. Limited—Montreal

perfumery



balanced and versatile

To capture and hold the fancy of its myriad audience, fragrance must be as balanced and versatile as a great performer. Perfumery styled by D & O combines the talent, training and experience that alone will achieve the required standard of consistent high performance. With perfect balance and maximum versatility D & O Perfume Compositions give top performance and always secure star billing for your fragrance product.

D&O

REG. U. S. PAT. OFF.

DODGE & OLCOTT, INC.

180 Varick Street • New York 14, N. Y.

SALES OFFICES IN PRINCIPAL CITIES

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES

2 *big answers to two current needs!*

LAVANDALOL

AN aromatic compound of the lavender type; exceeding the oil itself in odor strength, stability and general effectiveness. Equally well suited to be used alone or as a fortifying agent for lavender oil in the proportion of 1 part oil to 3 parts Lavandalol.

— — —

GERANDALOL

THIS excellent geranium has been synthesized on the basis of extensive tests carried out with the principal components of geranium oil. Use in a 3 to 1 combination with the natural oil or alone. Judge it in the finished product.

Samples, and also samples in finished soap, will gladly be furnished upon request to users of lavender and geranium oils.

by schimmel & co., inc.

601 west 26th street, new york 1, n. y.

• Clays, talc, silica, diatomaceous earth—all are essential to pigment application. Pigments and every other industry employing white goods—from paper and plastics to cosmetics and ceramics—recognize Isco as a time-honored source of supply.

Facts about ISCO White Goods

Silica:

Isco amorphous, soft white decomposed. Available in various grades for inert fillers.

Talc:

Cosmetic, pharmaceutical, paint, ceramic & others.

Diatomaceous Earth:

For paper, roofing materials, polishes, paints, insulation & other uses. Available in four grades.

Magnesium Carbonate:

Paint, printing ink, toothpaste, cosmetic & other fillers, available in Technical & USP grades.

Also Calcium Carbonate, Clay & imported Kaolin.

ISCO®

INNIS, SPEIDEN & CO., INC.

INDUSTRIAL CHEMICALS

117 LIBERTY STREET, NEW YORK 6, N. Y.

BOSTON GLOVERSVILLE CHICAGO CLEVELAND PHILADELPHIA

gloss for glamour

You can add gloss and adhesion to your glamorous nail polishes—and increase their resistance to soapy water — through the use of Monsanto Santolite MHP.

Santolite MHP, an aryl sulfonamide-formaldehyde resin, can be worked easily into any formula using cellulose esters. It is water-white. It has a high degree of solubility. Higher-solids lacquers can be made without increasing viscosity. Santolite MHP improves brilliance and depth of color.

For further details on Santolite MHP, contact the nearest Monsanto Sales Office or MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

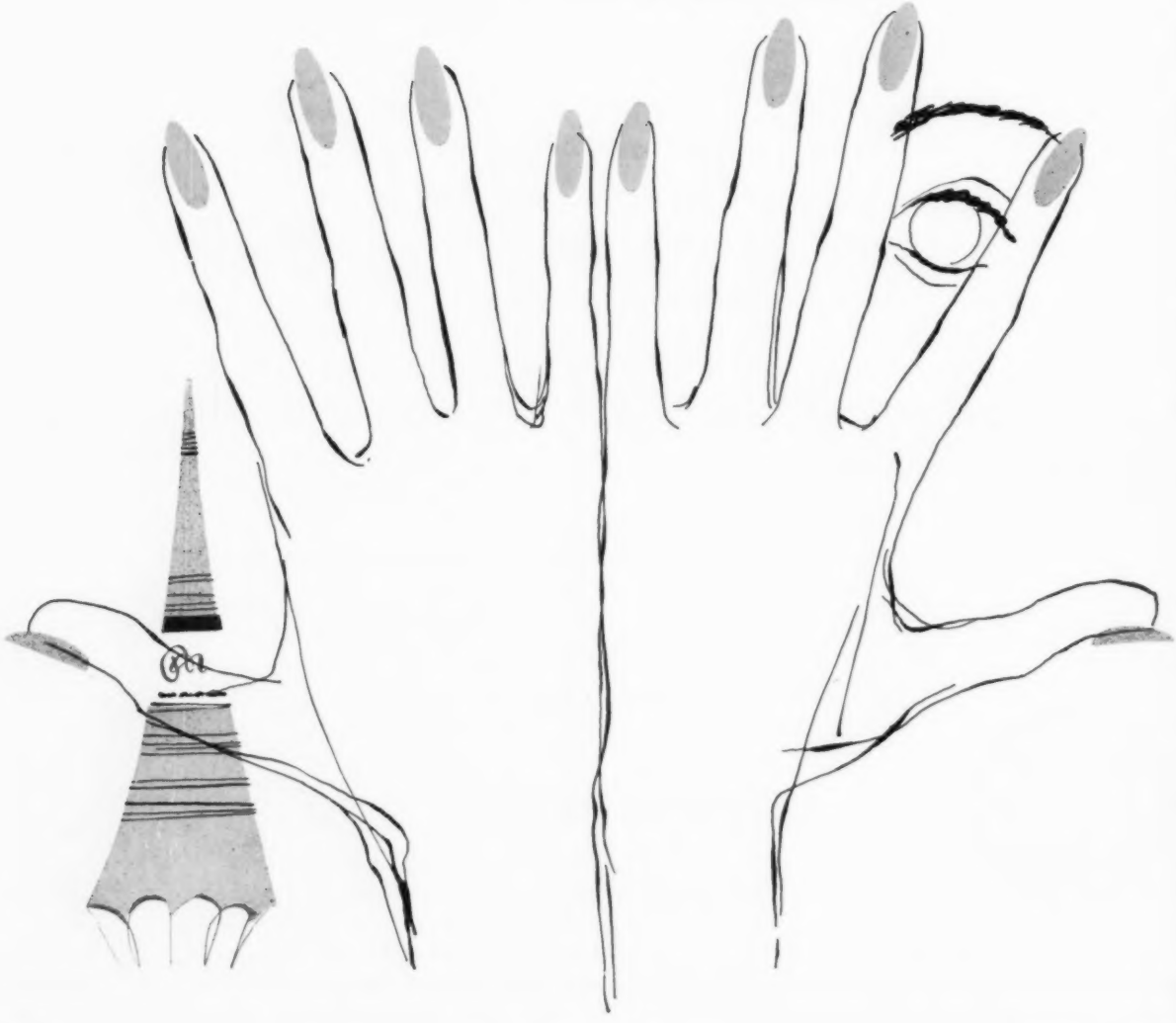
Santolite: Reg. U. S. Pat. Off.

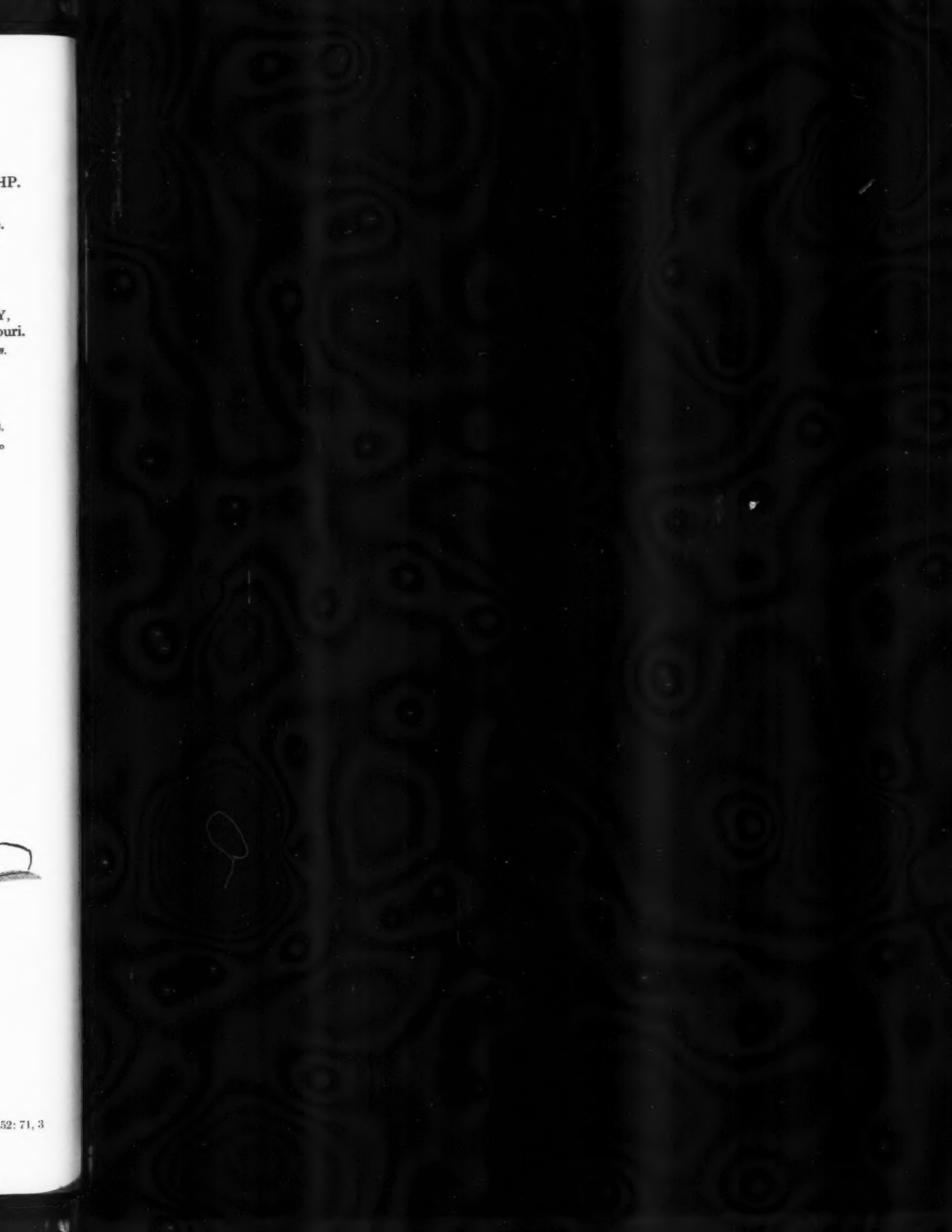
SANTOLITE MHP

MONSANTO
CHEMICALS — PLASTICS

Serving Industry . . . Which Serves Mankind

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle, Twin Cities. In Canada, Monsanto Canada Limited, Montreal.





The Odor of Beauty

While beauty has no distinctive fragrance, a proper fragrance always adds to beauty and desirability.

To enhance your product, you must have the proper fragrance to point up its qualities, increase its desirability and assure its success.

A vast array of such *Synfleur* fragrances is available to fill your every need—whether to make an old product new or a new product better.

Synfleur skill and creativity have been enriched and proven by more than 63 years of successful experience. *Synfleur* can supply the right fragrance at the right cost for all types of soaps, toilet preparations and cosmetics. Take advantage of this skill for the enhancement of your product.

Our creative perfumers and laboratory staff can help you with your fragrance problems. *Call upon them today.*

Founded 1889 by Alois Von Isakovics

Synfleur SCIENTIFIC LABORATORIES, INC.

MONTICELLO, N. Y.

ATLANTA • DETROIT • NEW YORK • HAVANA • RIO DE JANEIRO • MEXICO, D. F. • Chicago • Melbourne • Burma • Hong Kong • Bogota • San Jose
Ciudad Trujillo • Guayaquil • Guatemala City • Calcutta • Wellington • Managua • Panama • Asuncion • Manila • San Salvador • Montevideo

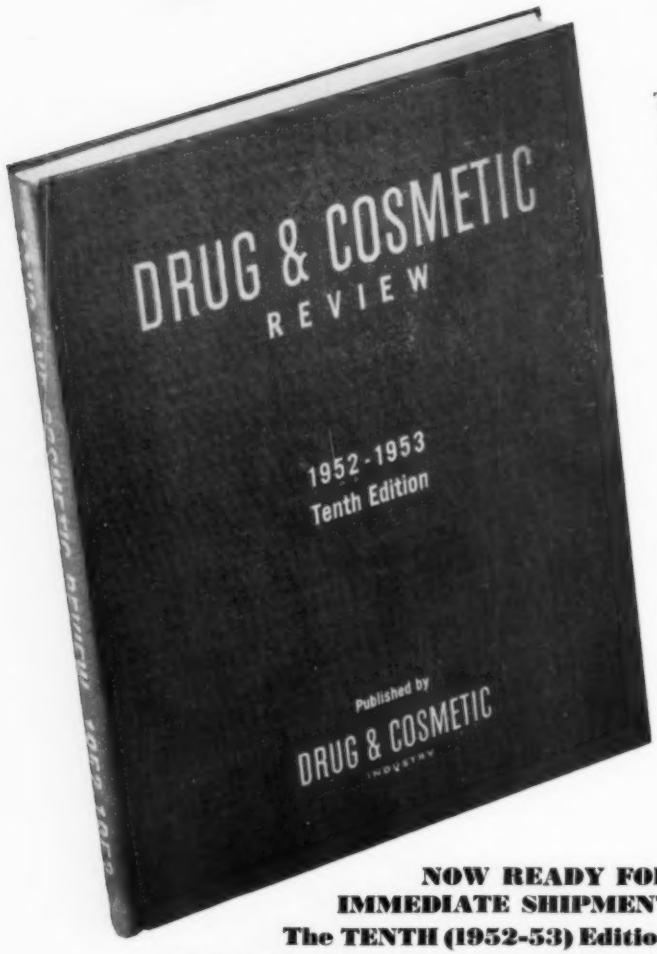
CANADA: Herman & Leal • 637 Craig Street West • Montreal, Quebec

Greatly Expanded

to better serve the Industry

the new 1952-53 tenth edition

Drug & Cosmetic Review



NOW READY FOR IMMEDIATE SHIPMENT

The TENTH (1952-53) Edition

Beautifully Bound (Gold Stamping) Over 400 Pages

$3.00 in the United States

$4.00 Elsewhere ***Postpaid***

Added Feature: 1.

TRADE NAME INDEX. Over 4,000 Trade Names! In the general field of supplies—chemicals, raw materials, packages and equipment—it is sometimes difficult for a buyer or interested consumer to locate the name and address of the owner of such products when only the brand or trade name is known. This Section will be useful in determining the name and location of the manufacturer of such products.

Added Feature: 2.

IMPORTS RAW MATERIALS. Import figures for all drug, cosmetic and related raw materials in quantity and dollar value for a five year period (1947 through 1951).

Added Feature: 3.

MODERN FORMULATION. Twenty pages of formulas and instructions for making drug and cosmetic products.

Added Feature: 4.

NEW FORMAT for easy access to company advertisements—many in catalog form.

Expanded:

5. Price Movements—Raw materials (1951-1941)
6. Directory of Packages and Packaging Materials Suppliers
7. Directory of Machinery and Equipment Manufacturers Suppliers
8. Directory of Raw Materials Suppliers
9. Associations of the Industry—with complete membership lists of all the leading Associations.

Buyers, Chemists, Perfumers, Plant Managers, Executives of Drug and Cosmetic Manufacturing companies in the United States and over 36 foreign countries have used this reference book profitably for more than twenty years. Its expanded scope makes the NEW Drug & Cosmetic Review more valuable than ever!

DRUG & COSMETIC INDUSTRY, 101 W. 31 ST., NEW YORK 1, N. Y.

Save! Cut costs...
without cutting quality!
Depend on Du Pont

ESSENTIAL OIL REPLACEMENTS

Looking for complete substitutions . . . or extenders . . . for high-priced, hard-to-get natural oils? You'll want to consider these Du Pont Essential Oil Replacements . . . economical for their top quality . . . available in large quantities.

CANANGA SYNTHETIC 51—$5.75 per trial lb. More economical than Ylang Ylang and Cananga, and faithful to the character of the natural oil. (Particularly well suited for use in white soap.)

BERGAMOT SYNTHETIC 52-S—$2.60 per trial lb. A low-cost, well-balanced replacement for the natural oil, suitable for all soap and cosmetic use.

AMBRENE S-51—$8.00 per trial lb. The rich, full note of Ambrene at an economical price.

Other synthetics of special interest:

GERANIUM SYNTHETIC 51	$ 9.50 per trial lb.
YLANG SYNTHETIC 51	9.10 " " "
YLANG EXTENDER 51	5.40 " " "
BENZOIN SIAM RESINOID IMIT.	1.00 " " "
CINNAMON SYNTHETIC 51	17.50 " " "

All prices subject to change without notice.

DU PONT AROMATICS

DU PONT
REG. U. S. PAT. OFF.

150th Anniversary

Better Things for Better Living . . . through Chemistry

For further information on Du Pont's line of fine synthetic oils, or help with any perfume problem, call or write E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Dept., Aromatics Section, Wilmington 98, Delaware. Branch Offices: Atlanta, Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco.

what's in a drop of perfume?

THE RADIANT SWEETNESS OF THE INGENUE....?

THE DRAMATIC APPEAL OF THE SOPHISTICATE....?

But to achieve the ultimate, intangible effect, that drop of perfume must contain the creative genius and the scientific perfection of the master perfumer and the purity of dependable materials.

For creative assistance and the finest in perfume materials, van Ameringen-Haebler, Inc. stands able and ready to serve you.

V A H

van Ameringen-Haebler, inc.

521 WEST 57TH STREET, NEW YORK 19, N. Y.

facts you may want to know about—

Potassium Bicarbonate

Foremost producer

Mallinckrodt began the manufacture of potassium bicarbonate in 1940. Prior to that time there had been no significant domestic production and pharmaceutical manufacturers were dependent on imports for their supplies of this important alkali. Mallinckrodt is now believed to be the major manufacturer of medicinal grades.

Capacity to supply national needs

Modern facilities, processing methods utilizing domestic raw materials, and adequate capacity have enabled Mallinckrodt to supply the nation's entire requirements for fine chemical grades of potassium bicarbonate.

Outstanding purity

In a line of fine chemicals for the pharmaceutical industry where exceptional purity is the rule, Mallinckrodt potassium bicarbonate is outstanding in chemical purity, uniformity and freedom from foreign matter.

Forms Available

Mallinckrodt potassium bicarbonate fully meets the requirements of the U.S.P. and is supplied in two forms:

Potassium Bicarbonate USP XIV Granulated (95% through 30 mesh sieve, 80% on 80 mesh sieve; always free-flowing)

Potassium Bicarbonate USP XIV Powdered (100% through 60 mesh sieve, not less than 95% through 80 mesh sieve)

Special forms can be produced to meet unusual requirements of quantity buyers. Mallinckrodt Potassium Bicarbonate USP XIV is supplied in 250 lb. leverpak drums, 100 lb. and 25 lb. fibre drums as well as subdivisional size containers.

MALLINCKRODT CHEMICAL WORKS

Mallinckrodt St., St. Louis 7, Mo. • 72 Gold St., New York 8, N. Y.

Chicago • Cincinnati • Cleveland • Los Angeles • Montreal • Philadelphia • San Francisco

BISMUTH SALTS • IODIDES • MAGNESIUM TRISILICATE U.S.P. • CALCIUM GLUCONATE U.S.P. • VITAMINS • MERCURIALS • PHENOBARBITAL U.S.P. •

Mallinckrodt®

MANUFACTURERS OF FINE CHEMICALS FOR THE PHARMACEUTICAL INDUSTRY • SINCE 1867 •

"Mr. Humpledinker, our president, is even giving our new miracle drug to his favorite son, Oswald."

Keeping Posted

Sale of Drugs in Wisconsin

The Wisconsin law restricting the sale of drugs is unconstitutional and void as an unlawful delegation of legislative power to private persons in the opinion of Circuit Court Judge Bruce F. Beilfuss. The case involves a grocer in La Crosse who was charged with violation of the Pharmacy Act in selling aspirin, milk of magnesia, and camphorated oil without being a registered pharmacist.

The grocer contended that these products are common, harmless, useful household articles in their original containers, that the pharmacist performs no function other than selling, and that the articles are therefore, for no real or practical purpose different from recognized proprietary medicines so far as the public is concerned and should be classified as proprietary medicines. He contended further that if the articles in question were found not to be proprietaries and their sale limited to registered pharmacists, then the statute restricting such sales be found unconstitutional.

The court found that the products are not proprietary medicines, but found the statute unconstitutional.

Drugs are defined in the Wisconsin Statute in language identical with that found in the Federal Food, Drug and Cosmetic Act. They are "articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States, or official National Formulary, *or any supplement to any of them* . . ." The court found that within limitations, certain legislative powers may be delegated to administrative agencies, but under the terms of the pharmacy act, the legislature failed to fix the limits in which the law should operate. The court found that the delegation of power to define drugs is not given to an administrative agency, but to associations of private persons over whom the legislature has no control at all. That such associations after enactment of the statute, could make determinations subjecting persons in competitive businesses to criminal prosecutions. The court said: "The statute (pharmacy act) was enacted in 1939. The state contends that it was the intention of the legislature to include the three publications and only the supplements thereto in existence at that time. This interpretation cannot be read from the statute. The statute reads 'and to *any* supplement to any of them.' If the legislature had intended only the existing supplements it might well have enacted the statute to read, 'and the *existing* supplements to any of them.'

"Can the provision in the statute for 'supplements' be separated from the balance, or must the entire section be declared unconstitutional?

"The legislature knew or is assumed to have known that these three publications are periodically revised and that supplements are published in the interims between revisions. The legislature is likewise aware that there is a continuous development in the field of drugs and medicines. That it was so aware is apparent from the inclusion of 'supplements.' Not only are new drugs added, but the quality, purity, identity and strength of drugs previously listed are subject to change with the advancement of medical and pharmaceutical science. Also some substances because of their limited use may no longer be listed.

"It was the intention of the legislature that items as currently recognized and listed by these authorities should be considered drugs and provided a penal statute to prohibit non-druggists from selling the same. It was not the intention of the legislature that a non-druggist could be penalized for the sale of a substance no longer recognized by them as a drug. To hold that this statute is separable is to determine that the legislature would have restricted the definition of drugs to those listed in 1939. Such was not the intention; the statute is not separable and the whole is unconstitutional."

No Fair Trade Appeal

Friends of fair trade do not intend to petition Congress for any amendments to the McGuire Act unless a Supreme Court decision makes it necessary, says Dr. John W. Dargavel, chairman of the Bureau of Education on Fair Trade and executive secretary of the N.A.R.D.

"Unless the court of last resort says that the Wentling decision is not covered by the McGuire Act, Dr. Dargavel announces that the friends of fair trade, deeply appreciative of the action of Congress and the President, have no intention of going back to seek any amendments to the McGuire Act," states the Bureau.

The Wentling decision is the one which permits interstate mail order and retail sales to be made at any

prices regardless of existing fair trade contracts which are binding in intrastate commerce. The Bureau says that the McGuire Act is designed to meet the Wentling decision. To quote the Bureau:

"Paragraph (4) of the McGuire Act is specifically designed to overcome the Wentling decision on the basis of enabling legislation which does not establish a Federal fair trade policy. The record of the debate on the McGuire bill in the House and the Senate clearly shows that many members of Congress believed that in voting for the McGuire bill, they were overcoming the Wentling decision."

The Keough amendment to the McGuire Bill, which amendment the American Fair Trade Council sought to have added to the McGuire bill, was designed particularly to prevent cut prices permitted by the Wentling decision. However the Wentling decision was handed down with respect to the Miller-Tydings Act. Since this act has been supplanted by the McGuire Act, the Wentlin decision now has no force and effect. Such permission to cut prices in interstate sales could only be obtained by the price-cutter successfully defending a suit brought under the provisions of the McGuire Act.

Cold Waves and Neutralizers

The matter of whether or not a neutralizer should be used after application of a home cold permanent wave to the hair, has become a controversial subject. The controversy has been brought about due to the fact that Richard Hudnut, manufacturer of a cold permanent wave using a separate neutralizer has been running full-page advertisements in newspapers advising women that wave kits not containing neutralizers will cause damage to the hair.

There are two widely advertised cold waves which do not use neutralizers. These are Shadow Wave, manufactured by Lever Brothers, which contains what is called an accelerator to bring the action to a halt when the solution is exposed to the air. This method is covered by the Beste-Reed patent which was once owned by Hudnut and was obtained by Lever Brothers through the purchase of Rayve, or Raymond Laboratories. Prom, manufactured by the Prom Division of the Gillette Company, which company also manufactures Toni, is the other widely advertised preparation not using a neutralizer. It is said that this product does not contain an accelerator, but depends mainly on exposure to the air to stop the action.

The advertisements of Hudnut advising women not to use waves without neutralizers are quite strongly worded. Hudnut says that its laboratory tests show "repeated exposure of human hair to prolonged saturation with home permanent waving lotions *without neutralization* have led to serious damage and even total destruction of the hair." The advertisement continues, "Can you imagine then what may happen to you every time you leave your hair rolled up on curlers, saturated with waving lotion for the 8 to 10 hours you must allow for it to dry in the air?"

"The only safe way to assure yourself of the soft, naturally pretty curls you want is by complete and thorough applications of a neutralizing agent to *stop* the chemical action of the waving lotion the moment the 'curl' takes on your kind of hair," the advertisement continues. "To men who have devoted a lifetime to the study of hair, it is simply unthinkable to skip neutralizing and to leave the vitally important safety-step to chance or the imperfect oxidizing action of the air. *And in this connection we know of no beauty parlor in the land which does not safeguard its clients' hair by neutralizer. You may check this statement with any beauty operator.*

In answer to the attacks upon the non-neutralizer waves, the Prom division of the Gillette Company has filed a legal action with the Federal Trade Commission on what is calls the "disparaging and untrue" advertisements of Hudnut. Prom company manager, Joseph T. Lewis, explaining that Prom is one of several automatic neutralizing home permanents attacked in the advertisements, says that this type of kit represents an important share of all home permanent wave kits being sold. Said Lewis:

"We have already sold several million Prom home permanent wave kits and July will be the biggest month since the product was launched. We know that women have used the product with complete satisfaction. In fact, many thousands of women already have used Prom two or three times."

Lewis says that the most extensive hair research in the history of cosmetics was conducted on this product before it was introduced nationally in September, 1951. This included medical, chemical, and physical studies and extensive usage on models in the company's beauty research clinic and by thousands of women in market testing areas. Denying Hudnut's allegations that the product can cause hair damage, Lewis asserted that all of these studies show that Prom leaves hair in excellent condition and in all cases in as good condition as hair waved with chemical neutralizing products.

Meanwhile some outsiders look on with amusement, while others see great harm to the permanent wave field in particular, and to the cosmetic industry in general, as the result of this controversy which they claim was entirely uncalled for. These people are of the opinion that a manufacturer should promote the sale of his products by extolling the virtues of his wares, rather than by attempting to find and broadcast shortcomings of the products of his competitors. In other words, manufacturers should "accent the positive," and not the negative.

Yogurt Claims Stopped

Yogurt is not effective in treating ulcers, colitis, high blood pressure, intestinal flu, rheumatism, poor appetite, headaches, fatigue, billiousness, or jumpy nerves, according to a stipulation accepted by the Federal Trade Commission from American Processing and Sales Co., Chicago, producers of Hawthorn-Mellody Yogurt. Banned under the stipulation are advertising claims that the product is helpful in preserving youth, promoting longer life, correcting digestive disturbances or stomach disorders; that the product is non-fattening, that it will improve strength and vigor, tone up the system, aid in restoration or maintenance of normal digestion or provide perfect bowel regularity. The company agrees to stop advertising that the product is consumed daily by America's top-flight athletes, that

it will make "vast" improvement in health, energy or well-being, or enable one to achieve a peak physical condition; and that published testimonials are based on the testimonialist's actual use and personal experience with the product, to the extent that such may not be the fact.

P. D. Multiple Fellowship

Parke, Davis & Company is the donor of a new Multiple Fellowship at Mellon Institute to carry on long-range investigations in synthetic organic chemistry, with general emphasis on chemotherapy and particular emphasis on the preparation of compounds for combating viruses and tumors. The Fellowship is headed by Dr. Alexander M. Moore, Administrative Fellow, since 1946 a P.D. specialist in synthesis of potential drugs and in classification of organic compounds. On his staff are three Senior Fellows: Drs. Robert S. Tipson, Alice G. Renfrew, and Marcus S. Morgan. Pauline C. Platt is a Fellow, and in the near future several other scientists and assistants will be added.

Dr. Tipson is a specialist in the chemistry of sugars, nucleic acids, cinchona alkaloids, antimalarial drugs, and glycols. Dr. Renfrew's published investigations have related to the structure of plant gums, biological and hydantoin chemistry, tubercle bacillus, quinine derivatives, heterocyclic compounds, and pteridines. Dr. Morgan has had wide experience in organic synthesis, his principal studies having been in chemotherapy, antimalarials, and kinetics of organic reactions.

Initial Decision Against Revlon

Revlon is prohibited by an initial decision of an F.T.C. Hearing Examiner, from offering for sale, selling or distributing its products in commerce on the condition that the purchaser shall not use, deal in, or sell competitive cosmetics. Also Revlon is ordered to discontinue enforcing any such condition in connection with any existing contract of sale. The examiner found that "beauty jobbers did, in fact, consider themselves bound by the restrictive provisions" in Revlon's sales contracts, and "as a result either temporarily or permanently discontinued the purchase of cosmetic products sold and distributed by competitors" of Revlon. By reason of Revlon's exclusive dealing contracts, the decision states, "competitive manufacturers were deprived of the full coverage of the beauty salon business in the trade area involved," and "these practices had the tendency and capacity to create a monopoly" in Revlon and a limited number of its competitors. Revlon is appealing this decision.

Cortisone and Antibiotic Plants

Certificates of necessity issued last month to drug and chemical manufacturers to permit fast depreciation on various plants to be constructed for essential materials present some interesting angles.

The first one that is surprising is the authorization granted Monsanto Chemical Company for fast write-off of 55 per cent of a cortisone plant to cost $18,451,000, while the Upjohn Company, already in cortisone in a rather big way, received a certificate for 50 per cent of only $3,655,902 for the same product, and Merck & Co., the first and largest producer of the drug, received two certificates for $978,900 and $362,150, both at 50 per cent.

Also interesting is a certificate issued to Parke, Davis & Company allowing the fast write-off of 55 per cent of $18,451,800 to be invested in expansion of penicillin facilities. In line with this are certificates issued to E. R. Squibb & Sons for quick write-off of 60 per cent of $3,442,531 to be invested in expanded production of antibiotics; Bristol Laboratories, East Syracuse, N.Y., 50 per cent of $9,103,766 for antibiotics; American Cyanamid Company, Pearl River, N. Y., 45 per cent of $5,280,000 for antibiotics; Chas. Pfizer & Co., Long Island, N. Y., 50 per cent of $4,850,000 for antibiotics; Merck & Co., Danville, Pa., 50 per cent of $1,292,000 for antibiotics.

New Chlorophyll Maker

Another chlorophyll manufacturer began production on August 16 at the former plant of Valley Vitamin, Inc., located at McAllen, Texas. The company is known as the Chlorophyll Chemical Corporation, and executive offices are in New York. The plant is described as the only industrial plant in existence designed and equipped exclusively for the chromatographic absorption of the natural coloring matters of plants. Its original purpose was to extract carotene, the process yielding xanthophyll and chlorophyll as by-products. The plant was purchased from Godfrey L. Cabot, Inc., Boston, who operated Valley Vitamin, Inc. as a subsidiary, but closed the plant three years ago. It is said that the plant was essentially a huge research installation and correspondingly over-costly for crude manufacturing of industrial-grade plant pigments.

The chairman of the board and treasurer of the company is Sinclair Robinson, attorney, of the firm of Robinson and Hobbs, New York. Mr. Robinson has selected the following technical associates on the board, all of them well known:

Dr. August J. Pacini, president of the firm, former consulting chemist, known some years back as the promoter of the fatty unsaturates, called at that time vitamin F, and produced by Archer-Daniels. Dr. Pacini was also director of research for the American Chlorophyll Company some years back. He was also holder of a patent for a process for the production of viosterol.

Dr. William J. Hale, of the Dow Chemical Company, is vice-president in charge of Products Development of the company, and holder of several patents on many industrial and confection uses for chlorophyll.

Dr. Lawrence W. Smith, former professor of pathology at Harvard Medical School, then Temple University, and later with Commercial Solvents Corporation, is secretary and in charge of medical and general research.

Sidney Fox and Arthur S. Gales, attorneys.

Phillip Marsden has been named vice-president in charge of sales of the company, and Owen F. Gee has been named vice-president in charge of plant operations.

It is said that the anticipated production of sodium copper chlorophyllins is sold on futures, but a series of metallo-phyllins are in production distinctive to the chromatographic method of preparation that have already attracted the research attention of the larger pharmaceutical manufacturers. For example, Auro-

phyll, a gold derivative of chlorophyll, Ferrophyllin, a ferrous iron derivative, Hydrogyrophyll, a mercury derivative, Manganophyll, a manganese derivative, and many others. The company is prepared to offer research data on these newer preparations to interested pharmaceutical and cosmetic manufacturers.

FDA Rules on Chloromycetin

Deciding that Chloromycetin may continue to be marketed by its manufacturer, Parke, Davis & Company, although under drastically different labeling, the Food & Drug Administration, through its head, Charles W. Crawford, Commissioner of Foods and Dru s, said:

"The Administration has weighed the value of the drug against its capabilities for causing harm and has decided that it should continue to be available for careful use by the medical profession in those serious and sometimes fatal diseases in which its use is necessary." The Commissioner explained that: "FDA's decision was similar in principle to one made every day by thousands of doctors throughout the country who weigh the need for a potent drug against the possibility of harm to the patient."

Early last month, the FDA referred to the National Research Council the case histories uncovered by FDA in a nation-wide survey of case records in hospitals and clinics. FDA's decision was based on the findings and recommendations of a special committee of the Council's Division of Medical Sciences. The committee of authorities on hematology and infectious diseases was headed by Dr. John Holmes Dingle, professor of preventive medicine at Western Reserve University, Cleveland. The committee considered records of 410 cases of serious blood disorders, of which 177 were definitely known to have been associated with use of Chloromycetin.

In 61 cases Chloromycetin was the only drug administered. In the remaining 116 cases other drugs had also been given. In both groups fatalities totaled 50 per cent, attributable to aplastic anemia and related conditions in which the bone marrow had lost its ability to manufacture both red and white cells of the blood.

A group of 168 cases, including 97 cases of aplastic anemia, was eliminated from consideration because it was determined that Chloromycetin had not been administered. A remaining group of 65 cases in which Chloromycetin may or may not be involved was continued under investigation. The FDA states that it is estimated that since the drug came on the market in 1949, it has been administered to something like 8 million cases.

As the result of a conference at which the committee considered all evidence presented by the FDA and Parke, Davis & Company, the following consensus was forwarded to the FDA:

1. Certain cases of serious blood dyscrasias (aplastic anemia, thrombocytopenic purpura, granulocytopenia and pancytopenia) have been associated with the administration of chloramphenicol.
2. Although this complication has thus far been uncommon, it is sufficiently important to warrant a warning on the label of packages of the drug and in advertisements of the drug and the recommendation that chloramphenicol not be used indiscriminately or for minor infections.
3. When prolonged or intermittent administration is required, adequate blood studies should be carried out.
4. In view of the paucity of information at the present time the conference hopes that further study of serious reaction of chloramphenicol and other drugs will be promoted. The record of the Veterans' Administration and military forces could be of great value in providing some of the desired information.

The change of the labeling, as ordered by the FDA is that the following statements appear:

1. (At the top of the circular) Certain blood dyscrasias (aplastic anemia, thrombocytopenic purpura, granulocytopenia and pancytopenia) have been associated with the administration of Chloromycetin. It is essential that adequate blood studies be made when prolonged or intermittent administration of the drug is required. Chloromycetin should not be used indiscriminately or for minor infections.
2. (On the label) Warning: Blood dyscrasias may be associated with intermittent or prolonged use. It is essential that adequate blood studies be made.

Dr. Irvin Kerlan, Acting Medical Director of FDA, said that this experience "is an impressive reminder that highly potent drugs must be treated with extreme care and should not be employed unless there is a clear-cut indication that they are needed." He said there is no way of foreseeing as yet all possible reactions which may develop in patients after a drug becomes widely used.

In commenting on the decision of the FDA, Harry J. Loynd, president of Parke, Davis & Company, said: "The FDA decision certainly reflects new credit on the research scientists who discovered and perfected Chloromycetin, and the clinical investigators who made exhaustive tests before Chloromycetin was first made available to the medical profession.

"In the course of a nation-wide study on reported blood disorders, the Food and Drug Administration contacted physicians and hospitals throughout the country and also obtained the recommendations of the National Research Council. Thus, this antibiotic—with which physicians have treated more than 8,000,000 patients since 1949—has now successfully passed three intensive investigations, originally by Parke, Davis & Company, and more recently by the Food and Drug Administration and the Division of Medical Sciences of the National Research Council.

"Physicians may continue to prescribe Chloromycetin for the treatment of any disease as they see fit, but are cautioned against using the antibiotic indiscriminately, or for minor infections. The studies show that blood disorders may be associated with intermittent or prolonged use not only of this antibiotic but a number of other drugs, in which case adequate blood studies should be made.

"Throughout the recent evaluations by the FDA and the National Research Council, we are gratified to receive many expressions of confidence from physicians who had used Chloromycetin successfully in so many cases. We are glad that physicians will continue to use the antibiotic according to their own best judgment, and that the evaluations have disclosed the facts about the precautions they should take in using this valuable and powerful chemotherapeutic agent."

Schwegmann and McGuire Act

Schwegmann Brothers Giant Super Market, the New Orleans retailer who was responsible for wrecking fair trade in this country, is at it again even though enactment of the McGuire Bill is supposed to have corrected the shortcomings of the law which resulted in the famous Schwegmann decision. John Schwegmann Jr. says that they "are continuing to merchandise as we see fit—at the same old prices." All, not just a few, fair-traded items are being sold below fair trade minimum prices, he added. Mr. Schwegmann holds that the McGuire Act is contrary to the Sherman Act itself by giving states the right to violate the Sherman Act. He is confident that he will win out in the fight against the law as he did in the long battle against the old law. "We are waiting to see what tack fair-traders will take against us. And if they don't come after us we'll go after them," he said. He contends that fair trade costs the average American family $200 in additional living expenses. Price-cutting does not adversely affect consumer attitudes toward brand name items, he says. He is seeking the backing of other supermarket operators in his fight and has made trips to Florida, Texas, and Mississippi to enlist such aid.

The latest addition to Schwegmann's is a drug department which offers prescription service at prices which Mr. Schwegmann claims are much lower than can be obtained elsewhere in New Orleans or its environs. He has invaded the prescription field by advertising the cost of prescriptions per ounce, pint, or 100 tablets or capsules,—a pricing scheme unheard of in the drug field. He offers to supply insulin to diabetics in quantity at prices far below the fair trade minimums. As examples, he is offering U-40 Lilly plain insulin at 25 vials for $23.10, against a fair trade minimum of $35, and 13 vials of U-80 insulin at $23.60, against $35.75.

Prescription Drugs and Fair Trade

This activity of Schwegmann Brothers in cutting the prices of prescription drugs raises the question of whether or not drugs sold on prescription are subject to fair trade prices. Insulin does not come in this category as it is sold over-the-counter and is therefore branded merchandise. However, prescription drugs normally carry no labels which would permit the user to identify the maker and therefore the products as sold are not branded merchandise. It is true that some tablets bear the maker's seal, or are of distinctive shape or color, both of these differences from plain tablets or capsules being for the purpose of preventing substitution by the druggist. It is true that in such cases it might be possible for a smart consumer to identify the maker, but most users would merely be able to tell that the product was the same as was received before and would not be able to associate it with any particular maker. Fair trade laws are designed to apply only to branded merchandise and therefore we do not see how they can be enforced in the case of drugs sold on prescription.

Furthermore, fair trade laws are enforceable only in the case of branded merchandise that is in free and open competition with other merchandise. Therefore, if a drug is entirely unique in that it is the only drug for a particular use, it might be considered as not being in competition with other drugs and then the fair trade acts could not be applied. Such a product could be sold at any price a distributor wanted to ask for it.

Merck Article in Time

Merck & Co. board chairman, George W. Merck, and Merck & Co. are the subject of an article which appeared in Time for August 18. A color picture (head only) of George W. Merck appeared on the front cover of this issue with the quotation of Mr. Merck: "Medicine is for people, not for profits." The article, entirely complimentary in tone, and surprisingly free of the barbs generally contained in such articles, points out Merck's leadership in vitamins (B_1 and B_{12}), sulfa drugs (sulfaquinoxaline), antibiotics (streptomycin), hormones (cortisone); tells of the first production of cortisone coming from the new facilities at the Cherokee plant, Danville, Pa., during the week when the story appeared, and that this is to be followed soon by production at Danville of hydrocortisone (compound F). The history of Merck & Co. is traced back to its beginnings in Darmstadt, Germany, in 1827. Concerning George W. Merck, it says:

"At 58, George Merck looks like the priceless catalyst in the whole process that he is. A blond, blue-eyed giant (6 ft. 5 in.) with an easy smile and an exhuberant capacity for work (he spends his days, he says, 'half at the New York office, half at Rahway, and half at home'), he takes his company's role and reputation with dedicated seriousness."

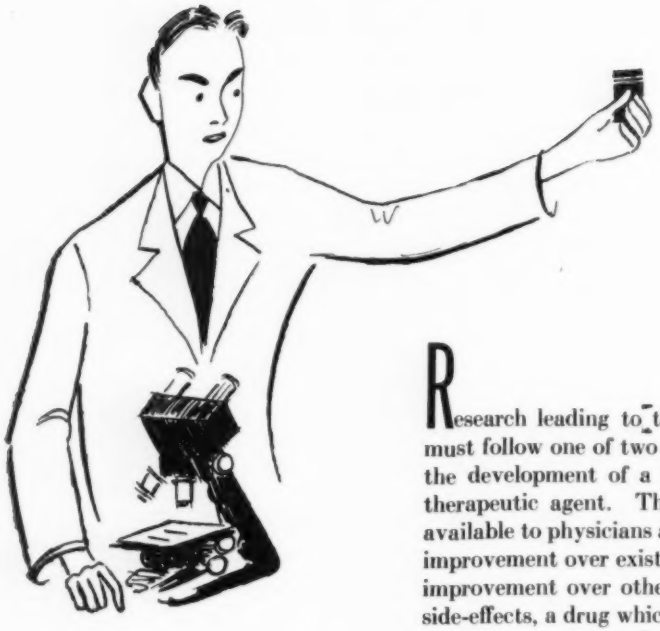
Cortisone Price Cut 40%

As a result of the completion of the cortisone production setup in the Merck Cherokee plant, and output of cortisone climaxing this 18-month construction project which more than doubled the company's production capacity for this important drug, Merck cut the price of cortisone 40 per cent in mid August. Merck President James J. Kerrigan said:

"In keeping with our policy the savings in manufacturing costs are being reflected in a reduction of 40 per cent in the price of cortisone. This is the ninth reduction and brings the price to less than one-tenth of the initial price in the fall of 1949.

"Operation of the Cherokee facilities means that Cortone is entering a new period of wide availability and prices within the means of more and more people. Physicians may institute treatment of patients requiring continuous dosage with full confidence that Cortone will continue in plentiful supply."

Simultaneously, Schering Corporation announced a similar price reduction in the price of Cortogen, its brand of cortisone. Francis C. Brown, Schering president, said that the reduction, if followed by other producers, would represent a saving of $12,000,000 annually to sufferers from rheumatoid arthritis and a variety of other diseases, since total American purchases of the once rare hormone are estimated at $30,000,000 a year. The cut brings the price of a single gram, enough to treat one arthritic for 20 days, from $16 down to $9.60 at the manufacturers' net selling price.



Pharmaceutical

Research leading to the discovery and development of new therapeutic agents must follow one of two courses, or lead to one of two objectives. The ideal goal is the development of a specific for a disease for which there exists no adequate therapeutic agent. The alternative is development of a drug which will make available to physicians and the public a product which will represent a very marked improvement over existing drugs for the treatment of one or more diseases. By an improvement over other products is meant, in part, a drug with less toxicity or side-effects, a drug which shortens the duration of a disease to a greater extent than any other product, a drug which is safer to use in all cases, and a drug which can be marketed at a lower price than existing drugs.

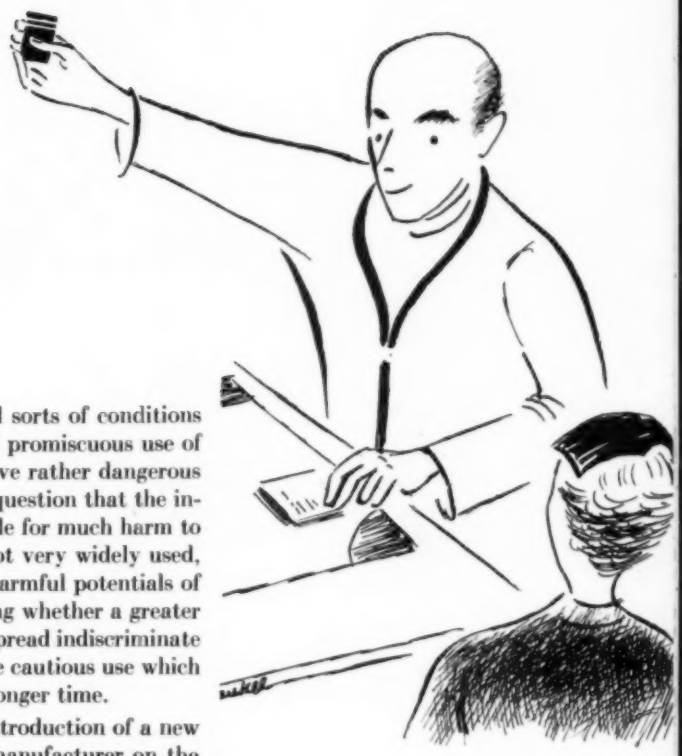
Needless to say, the discovery of a product for a disease for which no adequate treatment now exists is not very easy. Also the development of a drug with all or a majority of the above-named advantages over existing products is not any easier. And within the very recent past we have seen many examples of new products which appeared on first examination to be the answers to either or both of these goals, which exhibited most disappointing shortcomings after they had been released for general use by the medical profession. There appears to be in existence today no sure method of adequately testing a new therapeutic agent in laboratories and clinics so as to be entirely certain regarding its efficacy, side-effects, and other properties before it is released for general use by the medical profession.

To the greatest extent, the new drugs developed are created almost entirely within the research laboratories of the pharmaceutical manufacturers. True enough, many of the most prominent products now making medical history were developed as the result of initial discoveries or observations in medical clinics, hospitals and elsewhere, but even in the very large majority of these cases, it was the research laboratories of the pharmaceutical manufacturing industry which identified, isolated, synthesized, and finally produced the product in the desired form and in sufficient quantity and at an eventual price so that it would be readily available to all who needed it.

In addition to all this, the pharmaceutical manufacturers have been responsible for the initial pharmacological studies of their new products, first with rather extensive tests on animals, and later with studies on humans through the cooperation of doctors in various clinics and hospitals throughout the country. But beyond this, the manufacturers do not much control over their products. For when the product is released for investigational purposes, and when it is finally released for general use by the medical profession, the medical profession takes over the product and determines the extent of its use.

It is at this point that physicians try the product in the treatment of conditions which no one connected with the development of the drug ever had in mind. And if a doctor believes that he has discovered a new use for the drug, he immediately rushes into print in the medical press to report his success in a relatively small number of cases. This report causes other doctors to try the product for the same use, and then if the original report is not confirmed by others, the product gets a mark against it.

Responsibility



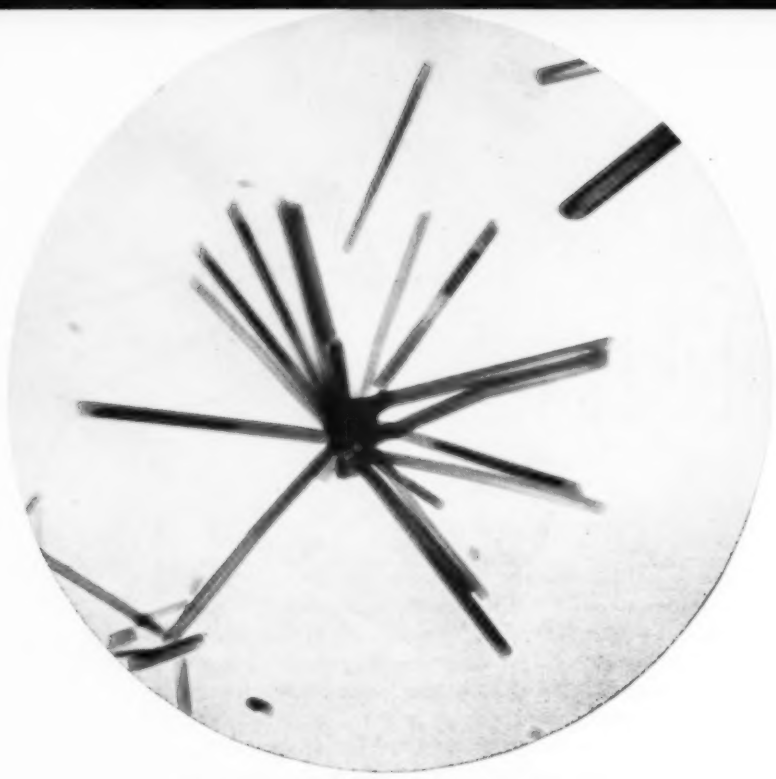
Further than this, doctors are apt to use the product in all sorts of conditions before they are diagnosed. This makes for indiscriminate and promiscuous use of a new product which is a potent substance and which may have rather dangerous side-effects which have not as yet been revealed. There is no question that the indiscriminate use of many new drugs by physicians is responsible for much harm to their patients, but at the same time, if these products were not very widely used, it would probably take a much longer period of time for the harmful potentials of a product to be noticed. Furthermore, there is no way of telling whether a greater number of people would be damaged by the drug through widespread indiscriminate use which uncovers its dangers relatively quickly, than by more cautious use which does not cause its harmful effects to come to light for a much longer time.

From these conditions it can be readily deduced that the introduction of a new drug is, in truth, a joint responsibility of the developer and manufacturer on the one hand, and the medical profession on the other hand. The developer and manufacturer can go only so far in the development of such a product, and then the responsibility lies mainly with the medical profession. The manufacturer still has a continuing responsibility even after the product is released for general use, but this responsibility is greatly limited from that point on. The manufacturer's responsibility after general release of the product is carefully to follow all reports of its use, to continue to be in close contact with the medical profession so as to learn all about the use of the drug that can be learned, and to incorporate this information—good or bad— in his labeling and in his advertising and literature to doctors as well in the talks his detail men give to doctors.

Naturally, the manufacturer's responsibility entails close contact with the American Medical Association and also with the Food and Drug Administration so as to keep informed regarding any reports which may come to these two bodies. While the manufacturer may be the first to receive complaints in the great majority of cases, the FDA and the AMA may be selected by some doctors or patients for the registration of complaints.

Prompt action, when required in case of complaints, is a most essential responsibility of a manufacturer. In some cases, it may be necessary to completely remove a product from the market, and in such instances, the manufacturer must cooperate to the fullest extent, even though, at the time, the product might be his leading seller. Sales of a product must be completely ignored when an emergency which threatens the health or lives of users arises. The amount of money expended by the manufacturer in development of the product, the clinical research, advertising and promotional activities, the plant layout for its production, the inventories on hand,—all these things mean absolutely nothing when the product in any way threatens the health of some users. It must mean nothing to the operating heads of the manufacturing company if discontinuance of the product throws the company into the red and means tremendous losses for the owners or stockholders of the company.

Pharmaceutical manufacturers must realize (*Continued on page 420*)



Photomicrograph of B_{12} crystals enlarged 120 times.

Illustrations for this article courtesy of E. R Squibb & Sons.

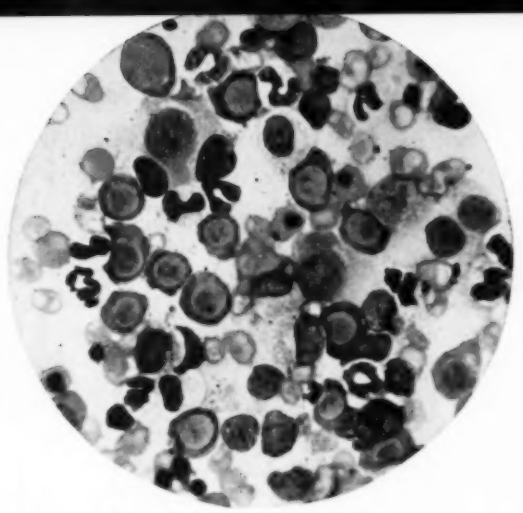
by Milton A. Lesser

Up to Date on Vitamin B_{12}

A lot of attention has been focused on the potentialities of vitamin B_{12}. Despite its firmly established position as an important nutritional and therapeutic substance, it is nonetheless a comparative newcomer. Indeed, it was only a little over four years ago that Rickes and his colleagues[1] in this country and then Smith[2] in England almost simultaneously isolated this red compound. Since then vitamin B_{12} —also called cyanocobalamin—has become known as the most potent therapeutic substance in the medical armamentarium.[3]

This evaluation stems primarily from the effectiveness of vitamin B_{12} in the treatment of certain forms of anemia. Aside from its value in hematologic disorders, vitamin B_{12} appears to be a valuable adjunct in the treatment of various neurologic disorders, some dermatologic diseases, and other conditions. Of increasing importance is its status as a growth factor in both human and animal nutrition, and as a lipotropic agent.

In various investigations, other active substances, differing slightly from vitamin B_{12}, have been detected in natural sources or have been prepared artificially.[4] As explained by Smith,[5] vitamin B_{12} was shown to be composed of a number of factors that are closely related chemically and which also show the same microbiological and clinical activity. Thus it appears that the factors designated as vitamin B_{12a} and B_{12b} are substantially the same, while vitamin B_{12c} has a nitrate group which is removed to form vitamin B_{12d}. These several factors may be dis-



Pernicious anemia in bone marrow.

tinguished by differences in absorption spectra, by chromatographic separation methods and by variations in the type of growth in microbiological assay. The most recently discovered[6] member of this group, vitamin B_{12f}, seems to have some interesting characteristics of its own.

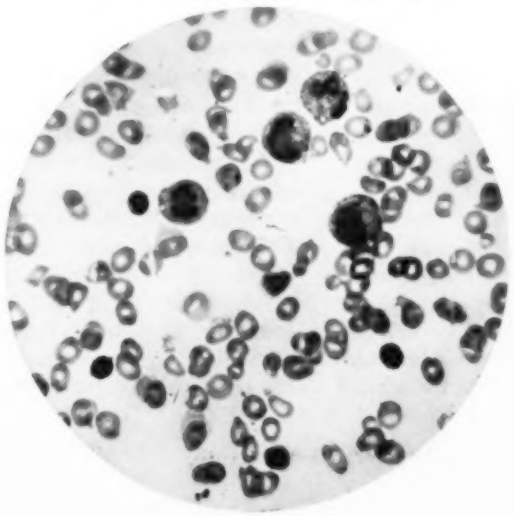
Although the other forms may yet be of potential importance, present interest and utility is chiefly concerned with vitamins B_{12} and B_{12b}. It is these forms that are used, singly or in combination, in therapeutic preparations. Vitamin B_{12b}, originally isolated from *Streptomyces aureofaciens* by Pierce and his colleagues,[7] is also called hydroxycobalamin. Subsequent studies[8] by this group showed that there is a difference between the absorption spectra of vitamins B_{12} and B_{12b}. However, the biological activity of vitamin B_{12b} was found to be approximately as great in microbiological and animal assays. Although the crystalline cyano form of vitamin B_{12} is official in the U.S.P.,[9] clinical tests have shown that the cobalamin compounds have the same type and apparently the same degree of hematopoietic activity.[10]

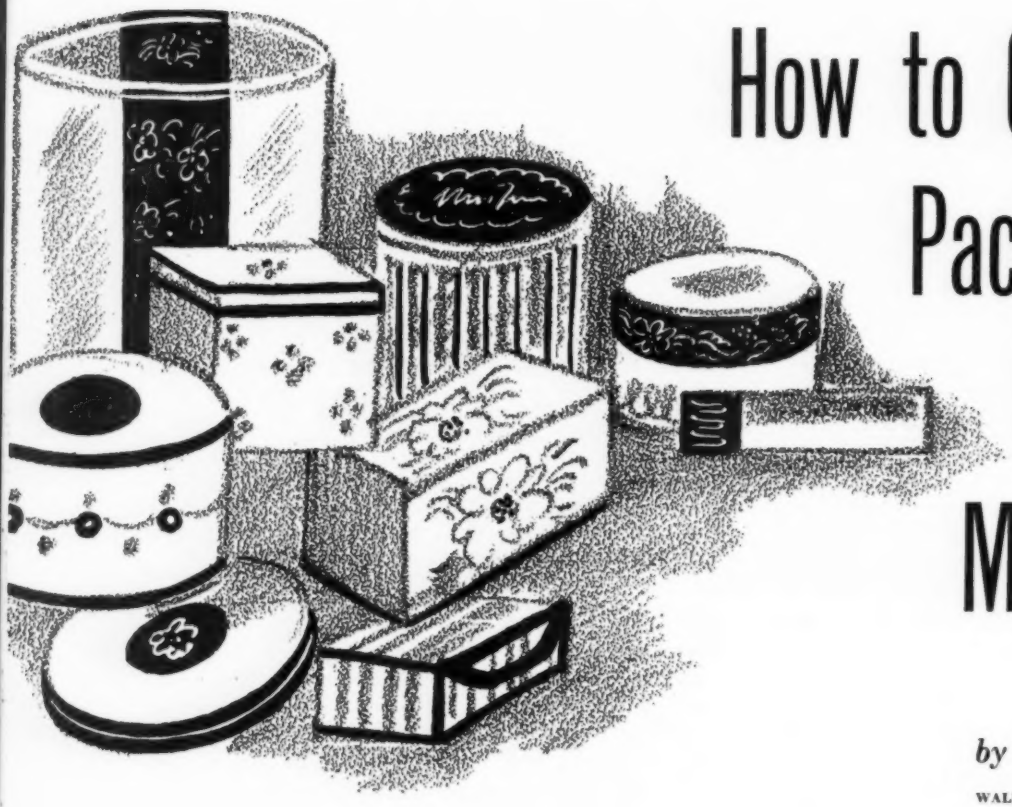
Rather unique among biochemical compounds because of its cobalt content, vitamin B_{12} has a molecular weight of about 1300. Being a complex substance, the structure of the vitamin has not yet been established but it is believed to have a composition typified by the formulas $C_{61\text{-}64}H_{86\text{-}92}$, $N_{14}O_{13}PCo$. However, progress is being made to elucidate its chemical structure.[11]

Nonetheless, considerable data have been gathered concerning the physical properties of vitamin B_{12}. Thus, in considering the crystalline compound from the

(*Continued on page 396*)

Bone marrow 150 minutes after B_{12} therapy.





How to Get a Package For Less Money

by Robert Wilson Proom

WALLACE PAPER BOX CORP.

Conscious that today "the package is replacing the salesman" at point of sale, it is the natural wish of all concerned with the creation of a cosmetic set-up box to provide an irresistible package.

Too often this dream box is designed in such a way that it requires the maximum of hand-operations in manufacturing, hence the purchasing agent is presented with the problem of buying a box for about twenty cents that, unless modified, would cost a dollar to produce. The purpose of this article is to present the supplier's problems in the matter of producing hand-assembled set-up boxes and to suggest ways of achieving the desired effect by using the maximum of machine operations in the manufacture of attractive packages.

The supplier loves to make hand-assembled, beautiful boxes with lush materials, such as plush velvet, the finest silk, imported linen and genuine peacock feathers. With hand-glued hinges that would grace a fine piece of luggage. Little gems of deft designs—silk-screened in multi-color splashes in exotic shades on clear acetate. There is a definite place in packaging using these materials. But they simply can't be produced cheaply by anybody with today's high wages for hand work.

So let's trace an actual case-history, showing the ideal way for the cosmetic manufacturer and the box supplier to cooperate in producing the very finest box possible for a sensible price.

The product is a new skin beautifying treatment. It consists of two pieces: one a cleansing and an astringent lotion and the other a cream for conditioning the facial tissues. Both products are in bottles of different sizes. They are to be sold as a unit in an individual set-up box. The retail price is to be $3.50.

The laboratories of this particular cosmetic manufacturer have been developing these products along with many others for the past two years. When the Chief Chemist informed the vice-president in charge of new products that the formula had been perfected, the vice-president arranged a meeting with the president of the company, the sales manager, the advertising account executive, the art director (whose duty it is to design the bottles and the ultimate box in which the product

will be sold), and the director of purchasing, who will be responsible for selecting the suppliers from whom the component parts will be purchased.

We will follow only that phase that concerns the set-up paper box in which the product will be sold.

The art director has been busy experimenting with various styles of box construction (a great deal of ingenuity is required at this point), plus the overall design and the papers to be used. He usually will have a rough dummy made up and his art department will have worked up color sketches of the art work to be used in printing the box wraps. This will enable him to get the "feel" of the package. He will have turned over the dummy box, photostats, specifications, etc. to the purchasing director and the purchasing department will later call in the box manufacturer who, from past experiences, he knows is qualified to manufacture this particular package.

A rough limit has already been given as to the cost of the box. This cost is not to exceed twenty cents, and a fifteen cent box would be desirable. However, all agree that this particular package must enhance the product and inspire confidence in its quality. It must be visually dominant wherever it appears. To the box manufacturer's representative is given as much information as possible to enable him intelligently to interpret the end results required. Here it is particularly important that all vital facts be given regarding what is desired in the ultimate package, as follows:

Details of the product itself, including net weight of the contents, the consistency (liquid or solid), the fragrance, if any. Samples of the individual containers, or a photostat that will show the size and shape of the bottle, jar or box is necessary along with color, size and type of closure and the weight of the total contents.

Also the supplier should know the type of consumer market desired (point-of-sale) such as: department store, chain, drug store, or super-market. He should know the plan of distribution and the carriers to be used, and, most importantly, the type of consumer: juvenile, teen-ager, debutante, young married group, middle aged, etc. As Alex M. Lewyt, president of the Lewyt Corporation so significantly has said, When a company sets out to establish a market, it should start with the consumer—not the product.

The supplier should be given details as to the quantity required, and when delivery is expected. If the lithographed or printed box wraps are to be furnished by the customer, a layout should be submitted by the box supplier, and he should know and recommend the type of paper and weight best suited for his method of operation. Gold or silver foil and some chrome papers, have a tendency to curl more than book or litho papers, thereby slowing operations and adding to the cost of production. The type of individual container; sleeve or two piece (box and cover), book, news lined or plain chip, printed or plain, should be specified. All of these details are relevant and important to the final production of an economical box.

Usually it will require a week for a comprehensive sample to be ready for inspection and criticism. Insisting on an overnight sample is obviously unfair to the supplier. Considerable thought must be given by the supplier's representative in order to interpret correctly the customer's ideas. In most cases special papers must be ordered from the paper mills, which often will consume two or three days.

At this point, the supplier consults his sample maker, giving him exact specifications, together with a few rough sketches of his own. This sampling is a required service of the alert box manufacturer and there is no charge for it. That is why it is important for the supplier to get all the facts so as to avoid costly redesigning of the original sample.

When the samples are ready and estimates of production cost have been made, they are submitted to the director of purchasing. If approved by him, he will turn them over to the art director, who will submit the samples of the boxes (together with the other component parts, bottles, jars, closures, art work of labels etc.) to the sales and other executives.

As this outline is based on an actual case history, approximate dates are given, so that a better understanding of the time factor will be apparent. This period will start from the day the director of purchasing first called in his supplier.

* * * *

Jan. 10th: Appointment arranged for—

Jan. 11th: Purchasing agent gives all facts to supplier.

Jan. 12th: Box supplier orders special papers and other materials required for samples.

Jan. 17th: All materials on hand. Representative gives sample maker all details necessary to produce a comprehensive sample.

Jan. 21st: Sample ready and full specifications are given to estimating department for cost.

Jan. 22nd. Sample and quotation submitted to customer.

Jan. 22nd to Feb. 3rd: This period devoted to discussion of the new package by the interested parties. Here the package receives its severest criticism. It is tossed around like an unwanted relative.

Feb. 4th: The Purchasing Dept. calls in his supplier for final changes and revision of cost to meet the new requirements.

Feb. 5th: Final sample is approved. Here an additional week is invariably wasted before the order is placed. (Probably to worry the supplier—sort of a "sweating it out" period).

Feb. 10th: The customer places his order.

Mar. 10th: First delivery of boxes is made. This would be the average time required to assemble the materials and manufacture the boxes. Much depends, of course, on other factors, such as availability of materials and the box manu-

(Continued on page 421)

Patent Pointers IV*

by Thomas Cifelli, Jr.

PATENT ATTORNEY
GAYLOR, CIFELLI & JURICK, NEWARK, N. J.

THE NATURE OF PATENT RIGHTS

A U.S. patent grants to the patentee the exclusive right for the period of seventeen years to make, use or sell a patented invention in the U.S.A. and its territories. After the seventeen-year period has run, the patent owner has no further exclusive rights as the patent grant cannot be extended or renewed, except by special act of Congress, which is done only in rare cases.

While a U.S. patent is limited in its application to the U.S.A. and its territories it follows also that foreign patents do not give their owners any right whatever in the U.S. Of course, if a foreign inventor takes out a patent in a foreign country and obtains a corresponding U.S. patent on the same invention in this country then that foreign inventor has exclusive rights in the U.S.A. However, in that case the rights accrue from the U.S. patent and not from the foreign patent. Consequently, if there is a foreign patent but no corresponding U.S. patent then anyone in the U.S. is free to utilize the teachings of the foreign patent. However, great care should be exercised to determine whether or not there is a corresponding U. S. patent. This is particularly true where the foreign patent is of recent vintage as it takes longer on the average to obtain a U.S. patent than to obtain a patent in most, if not all, foreign countries.

As a matter of fact, however, the patent does not

*This completes the series of articles on this subject. Others appeared in March, April, and August of this year.

grant the actual right *to do* something but merely the right *to prevent others from doing* what the patent claims. In other words, the patent gives a right to exclude and it is in this sense that the word "exclusive" appears in the actual patent grant from the U.S. Patent Office.

BASIC V. IMPROVEMENT PATENTS

The distinction just brought out is very important as a practical matter. Many patent owners believe that because they have a patent they have the right to practice the invention covered by it. It comes as a surprise to them to learn that while they can prevent others from practicing their patented invention that does not necessarily mean that they have a right to practice it themselves. For, there may be unexpired basic patents that would be infringed by the practice of the later improvement patent. In such a case, the holder of the improvement patent does not have any right to make, use or vend with impunity. He would first have to obtain a license from the owner of the unexpired basic patent.

CLAIMS MEASURE THE PROTECTION

The two main parts of the patent are the specification and claims. From the point of view of just what rights are granted by the patent it is the claims which constitute the important part. These set out the legal monopoly and regardless of how broad the invention disclosed may be only that part of the invention which is covered by the claims is actually protected. This is one of the reasons why it is so important to use utmost care in drafting the patent application and in particular the claims.

The claims may vary in number from one to any number. They appear to be repetitious but upon close examination it will be seen that each claim is different from the other claims. If one wishes to find out whether the particular process or product he is concerned with infringes any patent it is the *claims* of the patent which have to be considered; though, of course, recourse may and should be had to the specification for an understanding of the invention and the terms used in the claims. Thus, even though a patent may disclose the use of, let us say, aliphatic alcohols generally in a certain process, if all the claims specifically call for methyl alcohol the claims can usually be avoided by the use of aliphatic alcohols other than methyl alcohol.

LICENSES

There is no obligation on the part of the patent owner to exploit the patented invention. Theoretically, he has the right to refuse to exploit it or to permit others to do so. If the patent owner wishes he may license others, under certain conditions, to practice the invention covered by the claims of his patent. A license may be exclusive or non-exclusive, practical considerations dictating the terms.

The license may only give the right to manufacture or it may only give the right to use or it may only give the right to sell or it may give any combination of these three separate rights. It may limit the licensee as to the territory or amount of material that may be manufactured under the license. While other restrictions, such as fixing the price at which the licensee may sell the patented product, may be contained in the license, it will be illegal for the patent owner to attempt through the device of a patent license to obtain a limited monopoly on an unpatented product or to tie in any restriction not coming within the scope of the patented claims. The scope of the valid restrictions permitted to the licensor has been narrowed somewhat by recent court decisions and the tendency is still in the same direction.

A patent grant is regarded in law as property, and therefore, rights to it may be assigned or sold like other personal property. Also, if the property right is damaged as by infringement, the law permits infringement suits in order to recover damages and stop further infringements.

PATENT LITIGATION

Patent infringement suits are in the sole jurisdiction of the federal courts. Such suits are brought in the federal district courts. A decision of any federal district is, strictly speaking, only applicable to the territory in which that particular district court has jurisdiction. For example, the New Jersey District Court's decisions are law only in New Jersey, and while persuasive are not law outside of New Jersey. Appeals from the decisions of the federal district courts may be taken to the Federal Circuit Courts of Appeal of which there are ten in the United States. Here, too, the decision of one Circuit Court of Appeal is not necessarily law in any of the other circuits. Thus, it happens that a patent may be pronounced valid in New York and invalid in Chicago.

Where there are conflicting decisions of Circuit Courts of Appeal or where the question is of general interest the U.S. Supreme Court may take jurisdiction of a patent case. As always, the decisions of the Supreme Court are law throughout the entire U.S.A.

REISSUE PATENTS

While as already noted a patent once issued cannot ordinarily be extended, the law does permit one to correct a patent which is defective. This is done by obtaining a reissue of the original patent. However, the reissue patent will expire as a patent seventeen

(*Continued on next page*)

years from the date of issue of the *original* patent and not seventeen years from the date of the reissue patent itself. Reissue patents may be obtained whenever any patent is wholly or partly inoperative or invalid, by reason of a defective or insufficient specification, or by reason of the patentee claiming as his invention more than he had a right to claim, if the error arose by inadvertence, accident, or mistake, and without any fraudulent or deceptive intent.

In order to obtain a reissue patent it is necessary to file a new patent application and the prosecution of a reissue application is substantially the same as that of an original application. One important difference is that the Patent Office acts on reissue applications much more quickly, considering these as special applications and consequently giving them special, fast treatment.

DESIGN PATENTS

In addition to inventions involving new processes and compositions of matter, persons in the drug and cosmetic industries often develop new and ornamental designs for various devices used in these industries, such as hair curlers, vanity cases, lipstick containers, packages, etc. If such a device is new, original and ornamental and has not previously been known or used in the U.S.A. and meets certain other requirements of the patent statutes, it may be the subject of a design patent.

Design patents are granted for a term of three and a half years, or seven years, or fourteen years as the applicant may elect. The government filing fees in design cases are $10 for a three and a half year patent, $15 for a seven year patent and $30 for a fourteen year patent. In practice, however, the application is usually made for a three and a half year patent so that the lowest fee is paid and then if it is ascertained that a patent will issue the applicant may elect to obtain a patent for a longer period upon payment of the additional fee. There is no final government fee required in design patent cases, unlike the situation with regard to the other patents discussed.

In general, all the regulations and provisions which apply to the obtaining or protecting of patents for inventions or discoveries also apply to patents for design.

DECLARATORY JUDGMENTS

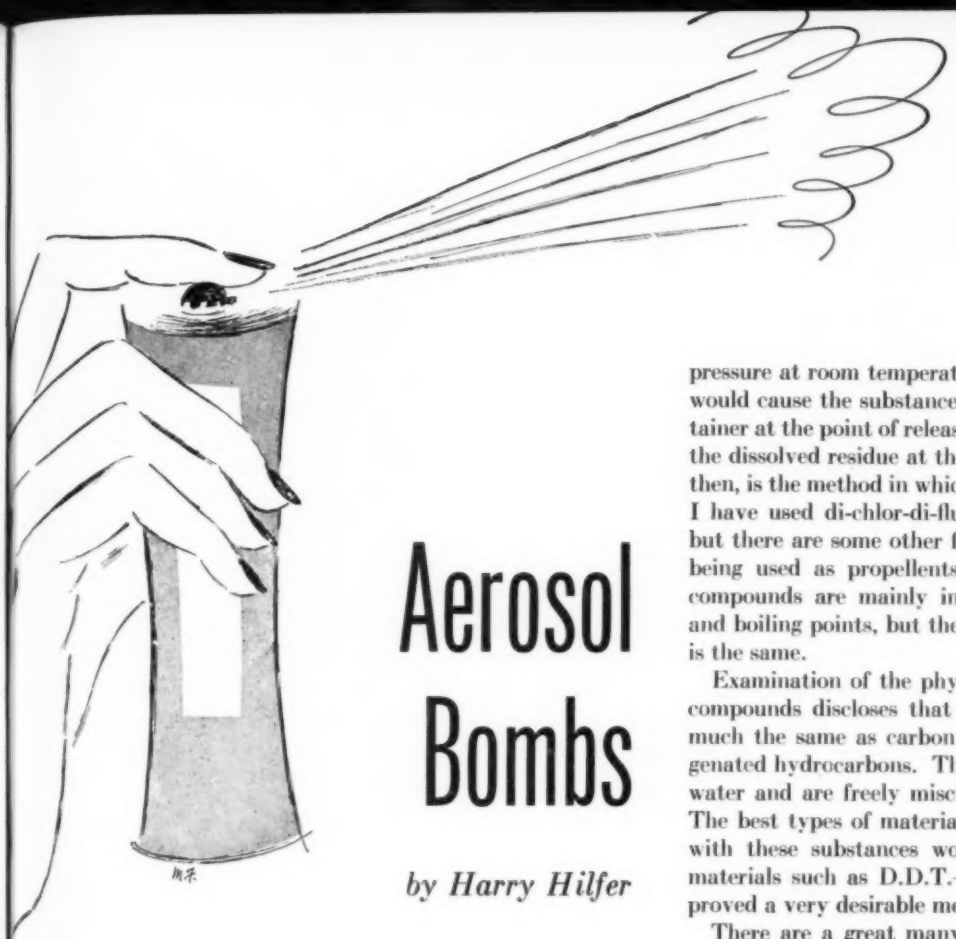
While a patent owner has a right to bring a suit for infringement of his patent the law does not permit him any longer to assert his rights under the patent without running the risk of having the alleged infringer sue the patentee. For if a patent owner threatens an alleged infringer with a suit, the threatened person may take the initiative and file a suit in federal court against the patent owner. In other words, the alleged infringer can turn the legal tables on the patent owner and sue the latter. This is permitted under the Federal Declaratory Judgments Act (28 U.S.C.A. Sec. 400). Prior to the passage of this act patentees could without bringing suit publicly proclaim an infringement and threaten to sue the user or anyone who dealt with a product which a competitor might have on the market. While this might gravely affect the competitor's business he was without remedy unless of course the patentee ran afoul of the law of unfair competition, and all that the competitor could do would be to make a settlement with the patentee whose claim of infringement might be entirely unfounded. Now, if a patent owner sends notices to a competitor's customers either directly or in a trade journal, threatening the purchasers with suits for infringement if they purchase the competitor's products, the competitor may immediately institute suit in the federal court in order to have the patent either declared invalid or have the court find that the competitor was not in fact infringing any of the claims of the patent.

COSTS

While it is realized that one of the very important factors from the point of view of the inventor is the element of cost, it is not possible to give figures which apply to all cases. In the first place, fees of different attorneys vary widely. Moreover, one cannot give any general figure to fit all cases as some cases are very simple and others are rather complex. Furthermore, one need not be reminded in times of inflation that the cost of professional services as well as commodities varies according to the purchasing power of the dollar. It is suggested that before an applicant engages an attorney the inventor should obtain an estimate from the particular attorney who will be in a position to give a reasonable, accurate estimate after he has ascertained the pertinent facts of the particular case.

EPILOGUE

When this series was begun in March the reader was told that he would not learn too much from these articles. Certain it is that this warning at least was correct. However, if anyone has a better layman's view of the general picture of obtaining and enforcing patent rights in the U.S.A. all the time and effort given to the preparation of these articles will have proved worthwhile. And, finally, if an awareness of how patents can be used more than has been true in the past in the drug and cosmetic industries has been brought into being and the drug and cosmetic industries make a better showing in future surveys of research activity then, truly, satisfaction will be complete.



Aerosol Bombs

by Harry Hilfer

During the course of the preparatory uranium isotope separation in the development of the atomic bomb, it was found that large quantities of fluorine would be needed since separation as the fluoride seemed indicated. It was for this reason that fluorine was produced in large single commercial batches with a resultant drop in its cost. Eventually fluorine became cheap enough to use for other commercial applications. This strange beginning was primarily responsible for the development of the low pressure propellents now used almost universally in the "aerosol" bombs.

One of the strange facts connected with fluorine compounds is that for some reason their inclusion in a molecule with chlorine renders the compound relatively non-toxic, while carbon tetrachloride or bromide or iodide is toxic and therefore dangerous to use as solvents for the preparations applied to the human skin. Strangely enough di-chlor-di-fluor methane—a compound similar to carbon tetrachloride—but where two chlorine atoms have been replaced by two fluorine atoms—is non-toxic, and may be safely used as a solvent. Di-chlor-di-fluor methane as an example of this group of compounds, has a boiling point of —29°C. and a critical temperature of 111.7°C., which means that it is capable of being liquified under relatively low pressure at room temperature. Release of the pressure would cause the substance to be forced out of the container at the point of release, and then vaporize, leaving the dissolved residue at the point of application. This, then, is the method in which the aerosol bombs operate. I have used di-chlor-di-fluor methane as an example, but there are some other fluor-chlor hydrocarbons also being used as propellents. The differences in these compounds are mainly in their critical temperatures and boiling points, but their basic method of operation is the same.

Examination of the physical characteristics of these compounds discloses that their solvent properties are much the same as carbon tetrachloride or other halogenated hydrocarbons. They are markedly insoluble in water and are freely miscible with alcohol, ether, etc. The best types of materials to be used in conjunction with these substances would therefore be oil-soluble materials such as D.D.T.—and the aerosol bomb has proved a very desirable means of application.

There are a great many applications of the aerosol bomb principle to cosmetic materials. One of the simplest is a method of incorporation of perfume oils in solution in the propellent and the use of the bomb for spraying. Essential oils generally are easily soluble in compounds of this type and there are no troublesome separations possible. Another application would be the incorporation of insect repellents and sun screening materials in this medium, and in so doing, greatly easing their application to the skin.

Their use in conjunction with aqueous materials is somewhat more difficult but not surmountable. One of the most successful of the aerosol preparations pointed toward the toilet goods industries has been the shaving cream, which when it emanated from the container was already in lather form. Attempts to incorporate a shampoo in this medium have so far been unsuccessful because of mechanical failure.

The fluorinated propellents are stable substances but in the presence of water they will hydrolyze to a very small degree. The result of hydrolysis is the formation of hydrochloric acid, which unless neutralized, will attack the metal valves of the container, and in this way prevent their proper function. The presence of an alkaline agency such as a soap will prevent too drastic a lowering of the pH, but the presence of larger quantities of detergent lowers the surface tension so far that the water itself will be enabled to react with the metal. We now hear through trade channels that attempts are being made to fabricate plastic valves whereby such

(*Continued on page 408*)

The Sympathomimetic Drugs

by Dr. J. L. Boyle

During the last ten years, there has been a remarkable swing away from the older drugs to the newer medical specialities and this is well illustrated by the development and use of the sympathomimetic amines. Research has disclosed several chemical compounds which have a selective, adrenergic action within the body and from this group, known as sympathomimetic amines, has arisen one of the most useful and common applications of drug therapy.

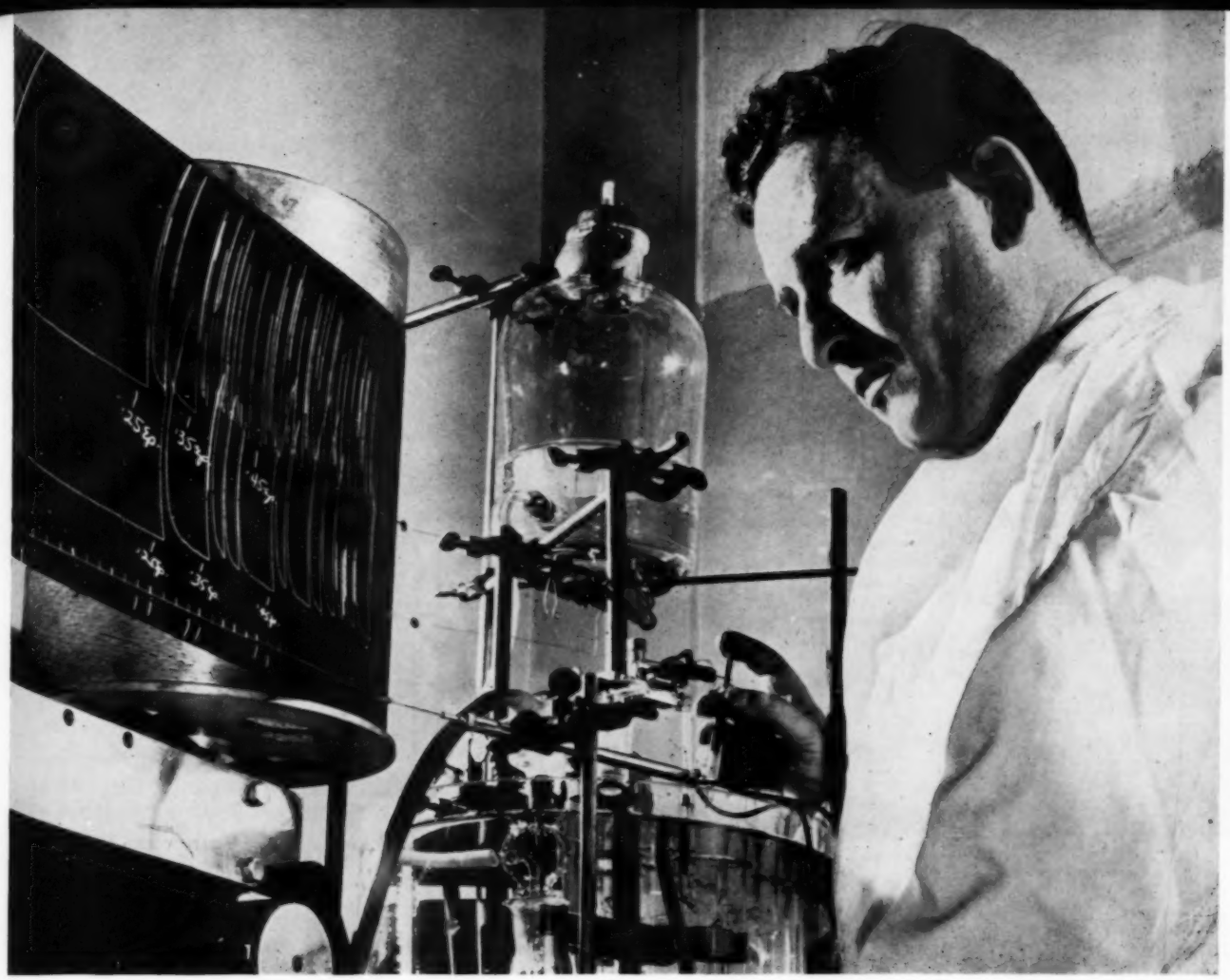
That part of the nervous system which conveys and supplies the impulses and nervous energy needed by the glands, heart and smooth muscles is called the autonomic nervous system. It is divided into two sections—the sympathetic system which arises from the thoracic and lumbar regions of the spinal cord and the parasympathetic which springs from the midbrain, hindbrain and sacral region of the spinal cord. Drugs which imitate, in their physiological effect, the effects of impulses conveyed by fibers of the sympathetic nervous system are called sympathomimetic drugs.

This division of the nervous system is based on anatomy but, with the development of these selective drugs and the increasing knowledge of the biochemistry of the nervous system, an alternative division based on physiological ideas has become popular. It is found that, nearly all the fibers of the sympathetic nervous system carry nerve impulses which, when they arrive at the muscle cell, liberate a substance with a physiological action similar to that of epinephrine. Such fibers are, therefore, classed as adrenergic. All parasympathetic fibers carry impulses which liberate acetylcholine at the terminal muscle cell and are classed as cholinergic. Sympathomimetic drugs are, therefore, drugs having a physiological effect on the nervous system similar to that of epinephrine and of course, the first member of the group is epinephrine itself.

General Pharmacological Effects

The substance that is liberated in the body by adrenergic nerve fibers has not been chemically identified. It is believed that, in fact two substances are involved: excitatory impulses liberate a compound that has been named Sympathin E: inhibitory impulses liberate Sympathin I. Recently, it has been suggested that Sympathin E may be non-epinephrine.

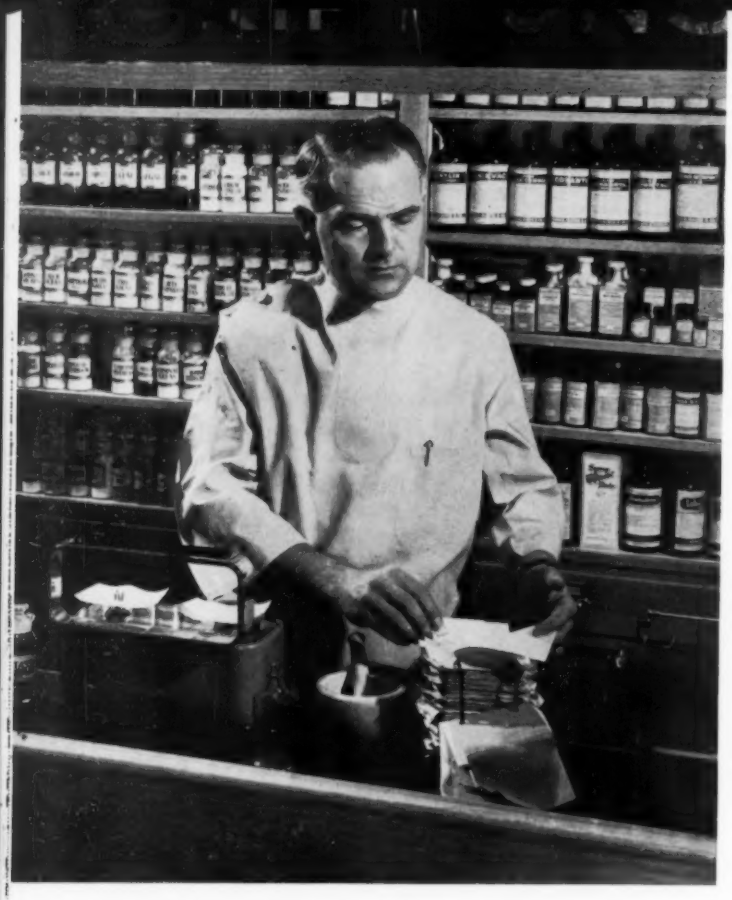
The adrenergic effect is complicated in several respects but one aspect that may lead to confusion is that, in some cases it means muscular contraction and others muscular relaxation. For example, certain adrenergic fibers carry impulses that constrict a number of arteries and arterioles producing a general rise in blood pressure while others lead to a relaxation of intestinal muscles. These apparently contradictory effects have to be accepted as experimentally determined facts, but no explanation of them has yet been discovered.



The general therapeutic uses of the sympathomimetic amines cover a fairly wide range but may be classified as follows: Because of the effect some of this group of compounds have of increasing the blood pressure by causing the blood vessels to contract, they are used in cases of acute circulatory collapse, such as surgical shock. Epinephrine itself is not very suitable for this purpose because its effect is only of short duration but a more prolonged effect can be obtained from some other members of the series. They are widely used in spinal anaesthesia to overcome the tendency towards diminished blood pressure during this treatment. This vasoconstrictive effect is also the reason for their use with local anaesthetics, because it delays the absorption of the anaesthetic and so enhances and prolongs the anaesthesia as well as having the secondary effect of giving a relatively bloodless area for operation. Related to this, is the use of these compounds to produce shrinkage of congested nasal mucosa in conditions such as coryza and allergic rhinitis; again, for this purpose epinephrine is not used, this time because its effect is too pronounced. Ephedrine is a common choice though the newer, synthetic members of the group are growing in popularity.

In contrast to the above applications which depend on the ability of these compounds to cause muscular contraction, there is an important use for them in counteracting the bronchoconstriction due to hypersensitivity states such as asthma. Here, the desired clinical effect is due to relaxation of bronchial muscle and in part, to the relief of mucosal congestion. The power of ephedrine to relax vesicle muscle tonus is employed as a palliative in the treatment of nocturnal enuresis.

(Continued on page 403)



EWING GALLOWAY PHOTO

Pharmacy and Health*

by Ivor Griffith

PRESIDENT, PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE

Business as we know it today needs a higher appreciation of ethics and of fundamental objectives. Business men are not in business merely to make money. Serv e above self and above pelf should be their constant aim and ideal and when so performing they have as much right to a halo as do the preachers and lawyers and doctors and chemists and pharmacists.

What would you think of a priest or a preacher or a rabbi who would say, "I am not in the ministry for my health; I am in it to make money. I shall go to the church which pays me the greatest salary and I shall preach and practice what my congregation expects me to practice. I am tired of thinking of service; this is my time for profit."

You would say that such an alleged servant of God was not worthy of his calling.

What would you think of a doctor who would say, "I am practicing medicine to pile up my personal fortune and I shall practice it in such a way that will bring me the greatest income."

God forbid that such a man exists in the field of medicine or chemistry, bactericlogy, biology or pharmacy.

Yes, it is strange, is it not, that businessmen everywhere, do expect from clergymen and physicians and teachers and lawyers and pharmacists and nurses and chemists and others in the professional fields, adherence to special codes of ethics which they are not willing to accept for themselves. Why should not business, every business, be thought of as a profession with its won high sense of responsibility and fidelity to decency? Is it not just as important and just as honorable to furnish society with food, with fuel, with textiles, with homes, with happy outlooks as it is to furnish society with health, with religious guidance, with legal protection or with education? Let us bring, each one of us, into this queer civilization cleaner methods for our work-a-day world, heartening and inspiring industry and making business in all its services a natural part of the spiritual life of the country!

But let us now together put our minds on the state of Pharmacy today—let us pay tribute to those who thought sufficiently of generations yet unborn, to so arrange a proper earth, a proper plan, and a proper prayer that a clean, clear growth was guaranteed—and that this day, this very day finds all of Pharmacy no longer an humble corner in the vineyard of science,

*Taken from Dr. Griffith's address before the American Pharmaceutical Association Convention, Philadelphia, August 20, 1952.

but rather an unprecedented harvest furnishing its multifarious blessings to all of mankind. But yet the question is asked of us, over and over again "*Just What Is Pharmacy?* And I respond with a definition from a book—"Pharmacy"—"is the science which treats of medical substances. It embraces not only a knowledge of medicines and the art of preparing and dispensing them, but also their identification, selection, preservation, combination, analysis, and standardization."

"But," objects someone, "Pharmacy has changed, and for the worse. The 'pharmacy' of today is in no wise to be compared with the good old, dignified old, serviceable old 'pharmacy' of other days."

Continues the critic: "Are not the beloved old apothecary and his sweet idyllic days clear gone? The druggist today is largely a merchant of parts. His day of peace ended when he abandoned the colored lights in his windows and added fly paper to his stock of medicines. He has been adding things ever since. It is a long time since drugs made a druggist. Nowadays it is cameras, cosmetics, candlesticks, and cutlery."

To which we react—and promptly—with "those things are not *pharmacy*, and never were, nor will be." The textbook definition is as applicable as ever it was—indeed much more so.

Certainly the dear old apothecary is gone. So has the fine old family doctor, who once cavorted over fifty fields of medical service now patrolled by fifty specialists.

Where is the obstetric, gynaecologic, chirurgic, neurologic, chiropodic, paediatric, urologic medico of fifty years ago?

Is America any worse for his passing out of the picture? Certainly our national health statistics speak clearly in favor of the modern pattern of medical practice.

Americans now live longer than ever a people did before, and death is getting to be more objectionable than ever it was.

And as with medicine, so too with pharmacy.

The *pharmacy* today is *better* pharmacy, better insofar as it serves the public in a better way—far better, far truer to its definition than ever it served before.

Certainly its external aspects have changed!

No longer is the corner drug store the only habitat of the calling. For it has wandered far afield. The demand for medicinals is larger than every in history; the range and scope of medicinals are likewise enlarged; the need for uniformity and stability in medicinals is more exacting than ever and to cope with all of these requirements was much beyond the capacity of the corner drugstore man.

Is it surprising then that specialization came his way, too, exactly as it did in medicine? The textbook definition seemed once to be quite within the compass of one practitioner, but not so today. For the identification of drugs is now a science of itself—their selection, their stabilization, their analysis, their standardization—all are specialties—all are single sciences.

So has pharmacy ramified.

One who is well informed cannot help but envision the glorious and enobling terraces of Pharmacy.

How can anyone, except the ignorant, fail to grasp the significance of those resources in research toward new drugs, such drugs issuing from Pharmacy as have revolutionized of medicine in the last few decades.

—That flair for organization, the engineering and mechanical miracles in the great drug and chemical houses,

—The high standards in ethics and in science,

—The infinite capacity for accuracy and rectitude,

—The genius in control, in standardization, in the stabilization, and in the safe and sane distribution of medicines,

—The wealth of literature subliming out of the centuries of the practice of the art and science of the apothecary—its proud history and its traditions—its heritage of noblemen.

It makes little difference whether one serves, and with dignity and achievement in pharmacy, as a teacher, as a researcher, as a hospital pharmacist, as a writer or author, as a truly inspired practicing retail pharmacist, as a detail man or "professional representative," as a manufacturer, a wholesaler, a retailer, an administrator, or as an executive, there is sufficient vibrant challenge, sufficient glory, and sufficient pride for all of us when we truly sense the real services of real Pharmacy.

Those incredibly valiant and vigorous men who planted the seed whence issued this great and useful society would be proud of their founding works could they but note how great has been the growth of Pharmacy. For a brief while let us expound and even expand its contributions to public health and public welfare.

On the authority of Mr. Oscar Ewing, Office of Federal Security, life expectance in America today is about 68 years for the male and 71 years for the female, predicted from birth in 1951. This is practically 20 years longer than statistical datum states as longevity figures obtaining in 1900.

That this should have come to pass under existing medical services is rather sound testimony of the efficiency of these services. Possibly the one greatest factor in lengthening the span of life in America has been the research, manufacture, control and distribution of the most spectacular drugs in the history of the health professions.

Because of the protecting biologicals, insulin, the sulfa drugs, the antibiotics—aureomycin, penicillin and streptomycin, gramicidin, Chloromycetin—A.C.T.H., the cortisone complexes, the antihistamines, etc., the death rate from the pneumonias and infectious diseases has been reduced sometimes in the ratio of 8 to 1 and this comes through the intelligent use by physicians, of drugs made available to them by the profession of Pharmacy in all of its diversified services. Also, tuberculosis may have been conquered with the new compound Isonicotinic Acid Hydrazide. Then it is hope-

(Continued on page 416)

Pharmacology and Foods, Drugs, and Cosmetics*

by L. W. Hazleton, Ph.D.

HAZLETON LABORATORIES, FALL CHURCH, VA.

GORO PHOTO

As a group, both pharmacologists and the drug industry are cognizant of the cavalcade of progress represented by sulfa drugs, the 1938 Food, Drug, and Cosmetic Act, antibiotics, anticonvulsants, autonomic blocking agents, cholinesterase inhibitors, antianemia preparations[7] etc. The Food, Drug and Cosmetic Act was included in this list very deliberately for I want to emphasize the food and cosmetic fields included in the title. These terms are included, not for convenience, but from necessity. It is important that the cause-effect relationship be clarified promptly in this respect. The act is not a cause but a result. It did not come into being to cause this cavalcade but as a necessary result of rapid progress being made in the fields which it regulates.

Simultaneously with these developments in the drug field were equally significant events in the chemical industry. A major chemical manufacturer recently stated that half their sales volume was in materials which did not exist 10 years previously. It would seem redundant to recite in every detail these advances—plastics, agricultural chemicals, detergents, light metals and alloys, etc.

*Presented before Proprietary Association May, 1952

The cosmetic manufacturers were not caught behind the 8-ball either. How about cold waves, new type creams and make-up, shampoos and other hair preparations, cologne sticks, etc.? For one quite close to this industry the rapid strides made in research and development in the last decade are most impressive.

It should be apparent to any thoughtful person that these two great industries didn't make such progress by just working test tubes, retorts, and chemists overtime. Quite to the contrary, they also required the knowledge, experience, and technique of the pharmacologist. Their development needed pharmacological guidance through screening, assaying, comparison and development stages, and finally comprehensive research to establish safety for use.

To follow the problems which this challenge to the profession caused would be an interesting study, but in essence, the challenge has been met, with only partial success, by four major means. A first approach, and one with far-reaching ramifications, was the flooding of teaching facilities with enticing offers of sponsored research and, more specifically, sponsored developmental work. In view of the earlier history this significant trend assumes the nature of "If you

can't lick 'em, join 'em". Here the cycle is almost complete—from academic, to reluctant acceptance of industrial, to acceptance of industrial by the academic. This method of meeting the challenge introduced many new problems. To enumerate a few—maintenance of basic academic research, maintenance of freedom to disseminate knowledge gained by use of tax-exempt institutions and taxpayers' money, a decline in numbers of graduate students in pharmacology, congressional consideration of tax-exempt status for such hybrid set-ups, and perhaps a few qualms on the part of manufacturers as to whether, as exponents of free enterprise, this procedure was not short-sighted even though the end did seem to justify the means. A very clear distinction must be made between this type of activity and the sponsored basic research program such as this Association sponsored for some time and which seems to me to be a highly desirable program.

A second answer was establishment, in various degrees, of laboratories within their own organizations, a procedure again drawing on the available supply of pharmacologists.

A third answer has been the establishment of independent, commercially-operated and, I might add, tax-paying laboratories devoted to the service of these three industries—chemical, drug, and cosmetic. Obviously I sincerely believe that this approach, the massing of talent devoted to industrial pharmacology across the board, is ultimately the really logical answer.

A fourth answer to the challenge is one of grave concern to the pharmacologist. This consists of dilution. The relatively greener pastures of pharmacology have lured many a member of the sister sciences. This is perhaps inevitable, is certainly a professional problem, and is mentioned here only to complete the list.

This, then, is the current status. What of the current responsibilities? Dependent largely upon his affiliation the pharmacologist may be called upon to design and either supervise or conduct experiments directed at

(a) drug development, both old and new, as has been ably discussed previously at this meeting,

(b) evaluate safety of materials for public use, as in food additives or cosmetics,

(c) evaluate industrial hazards of new chemicals, through the whole channel from chemist to pilot plant, to production, to formulation, to distribution, to application, to consumption,

(d) evaluate new uses for agents such as nerve poisons for myesthenia gravis, agricultural chemicals for medicinal use, food chemicals for cosmetics.

These are the responsibilities, very abbreviated, which are directly associated with the laboratory of the pharmacologist. It is hoped that this brief outline will serve to illustrate that the animals in the laboratory are just as cooperative, or more likely just as contrary, no matter what the objective of the experiment may be. The important point here is that all industries which manufacture products coming into intimate contact with the human body have problems in common.

The meeting place of these problems is the pharmacologist, or what is frequently called a "toxicologist". This latter terminology, however, is inappropriate for the scope which has been outlined since the poisonous, or toxic, aspect of a material is only one of the many to be investigated, and more particularly, to be *evaluated.*

Interpretation and evaluation of data is currently understood to be an important responsibility. Management requires one type of evaluation, industrial hygiene another, and promotion still another. To this could be added labeling. But this is only the beginning. Today the rational evaluation of chemicals, including drugs, from the standpoint of Federal and State regulations and of public health is becoming one of the pharmacologist's most significant responsibilities. It is in the consideration of this responsibility that I wish to devote the balance of the allotted time.

During most of the past decade, and more I have been closely associated with the problems of industrial pharmacology, first in a university and for the past six years on a commercial basis. It is inevitable that in this time I should, from the scientist's point of view, develop new concepts and be aware of current trends in the field. Most fundamental of these is that the problems faced by the various industries are very much analogous so far as regulations are concerned. The impact of the 1938 Federal Food, Drug and Cosmetic Act is similar, and equally foreboding to all. True, the drug industry acquired exclusive rights to the New Drug Section, but this is in practice a procedural difference only. The cosmetics industry has the lion's share of the coal tar dye regulations, but this is balanced by insulin and antibiotic certification. What special deal for the agricultural chemical field? The Federal Insecticide, Fungicide and Rodenticide Act of 1947 provides for regulation of economic poisons by the Department of Agriculture on a basis similar to the New Drug Section. The Federal Food, Drug and Cosmetic Act provides for regulation of chemicals added to foods, but further regulation appears to be in prospect.

From the relatively unique position of being a devoted servant to the several industries regulated by these and other Acts, let me trace the course of a new insecticide from test tube to market so that you may compare it with the more familiar course of a new drug. The chemical research and industrial screening is comparable, as are the management decisions to proceed. Then come pharmacological studies and evaluation. Finally, but much later, comes the regulatory gamut.

Now watch this for problems, in comparison with new drugs. Application is made to the appropriate Department of Agriculture division for a "label." The data to be submitted may be roughly divided into two groups:

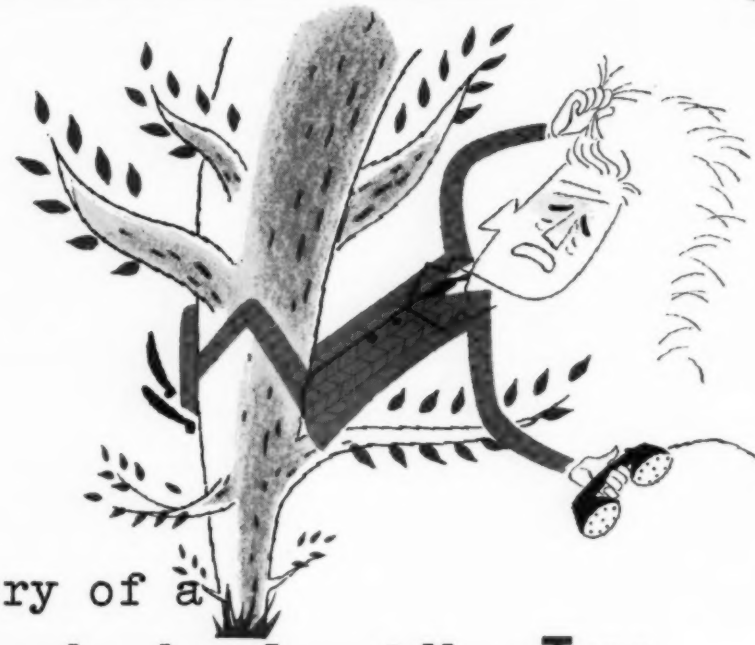
(a) Entomological, which includes

(1) effectiveness against specific economic pests,

(2) suitability for use on specific crops,

(Continued on page 418)

Schoettle Case Histories:



true story of a

Purchasing Agent Up a Tree

CASE HISTORY #31 Wow! Friday! Someone suddenly discovers inventory on a very important box is down to zero—and Monday's deliveries depend upon these boxes! Frantically, wires burn to the Schoettle plant. Purchasing agent says he's "up a tree" and we have to get him out! . . . our customer* for 17 years . . . practically out of business without boxes, etc., etc. Schoettle goes to work . . . cardboard made that night . . . men and machines hum 'round the clock Saturday and Sunday. Monday, we deliver 2-color boxes. Ask *that* P A about Schoettle!

CASE HISTORY #23 Here's a case where Schoettle took a Purchasing Agent "out of a tree" and put a halo on his head! Company* needed a carrier-pack to hold 3, 4, 6 cans for multiple sales. Nine competing companies submitted suggestions . . . all N.G.! Schoettle made a thorough study of the field . . . devised a smart new construction . . . turned it over to the P A. Purchasing Agent got some mighty kind words from Board of Directors . . . Schoettle got the order. P.S.: Schoettle thrives on anonymity and reflected glory . . . and good paper boxes delivered on time!

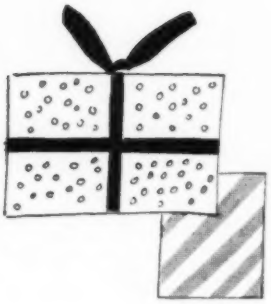
Schoettle customers are seldom "up a tree" for paper boxes because Schoettle goes to town for its customers! Inventory slip-ups, sudden orders, sometimes cause major Purchasing Agent headaches. Schoettle has the remedy . . . quality paper boxes delivered ON TIME!

*name on request

EDWIN J. SCHOETTLE CO.

533 NORTH ELEVENTH STREET • PHILADELPHIA 23, PENNA.

Designers and Manufacturers of Paper Boxes with Buy Appeal



Packaging and Selling

Potent Package Influences

Two very potent influences on package design in the future will unquestionably be the technical requirements of television and in an entirely different sense the technical requirements of self-service in the retail store.

Any company which may anticipate at some future day the incorporation of a television program in their advertising, must also anticipate in their package a great many complex factors in package identification on the television screen, which means that they must know a great deal about color combinations and color contrasts.

Package requirements of self-service, as it is developing now in the grocery supermarket for drug and cosmetic products, is creating a number of problems that have not been seriously included in packaging considerations in the past. While visibility and all of the competitive and psychological factors that enter into that term is still of paramount importance, the added factors which must be included in the self-service package apparently are: (1) the inclusion of a quickly assimilated sales message whereby the package can do the sales job once the consumer has noticed it and picked it off the shelf and (2) an adequate description of how to use the product, cautions, and any other similar information which normally would come from the sales clerk in regular personal selling at the retail counter.

Apparently, this means that the package which is ideally suited to self-service selling must not only be functional and perform everything expected of a package in conveying a product from a factory into the consumers' hands and it must not only have all of the competitive qualities of eye appeal and distinctiveness that has been so necessary in regular retail selling but now it must also assume the job of salesman at the point of sale and it must also take over the responsibility of any necessary instructions or cautions.

A good example of this evolution of packaging to meet the requirements of the grocery supermarket is in the new re-designed package of Kreml, designed particularly to meet self-service conditions. In addition to a change in color, tone and type, this new package makes prominent use of the testimonial as a selling feature. Powers Models are featured in full color pictures on the back and the front panels of the Kreml carton. These same models, which appear on the package as testimonial evidence of the desirability of Kreml, will also appear as a tie-in with magazine advertisements.

Another requirement of self-service package which will probably be of increasing importance, is an area on the package where the price can be clearly marked. In the new Kreml package a white area on the top of the box takes care of this important feature.

Buying Motives

A phrase of market research that is commanding increasing interest is a study of buying motives. These studies, as to a class of products industry-wise or specifically directed to any one individual product, are revealing a great deal of interesting information that sometimes deviates quite considerably from general industry or individual manufacturers opinion as to why people have been buying these products. The Chicago Tribune is engaged in a series of studies on buying motives, the first of which has been published. This is a comprehensive study of why people buy beer, what kinds of people buy beer, and do's and don'ts for beer advertisers.

As we recall this study, beer turns out to be a social and not a high-hat drink. It's not a drink where advertisers should feature a man of distinction or anything of that sort.

This comprehensive study is unquestionably a valuable contribution to the brewing industry. But, as these studies continue and as others follow the same path to find out why and what kind of people are buying their product and how to advertise to these people, it occurs to us that there is a lot of room for caution in interpreting these findings and a good sound reason for not making them the Bible of the Sales and Advertising Department. The reason for this caution, in our opinion, is that there is no such thing as a rigid buying motive and no such thing as a permanent pattern of buying motives.

The American market is a fluid, flexible market continually undergoing changes from social, political and economic reasons.

For instance, there isn't any question that high taxes on distilled liquor have just plain driven people to beer who would otherwise be drinking and serving cocktails or highballs.

Just recently an editor made a very thoughtful speech to furniture manufacturers in which she pointed out how social changes in this country were drastically affecting the design of furniture and how this in turn

would affect manufacturers who on the one hand were alert and on the other hand slow on the trigger in recognizing the effect of fundamental social changes in this country.

There isn't the slightest question that many people have one buying motive at one moment and another buying motive at another.

This doesn't mean that there are not basic markets of certain kinds of people for many products and that these markets provide the firm foundation of business success. Nor is there any question that there are certain fundamental preferences which provide the opportunity for business success when these preferences are intelligently handled in advertising. But it is also true that the alert, dynamically growing company is the one who both understands his basic market and basic buying motives, but who is also quick on the trigger to take advantage from changes in public opinion which may arise from economic conditions such as taxes, or from basic social changes such as the enormous spread in home ownership and the trend to the suburbs or in basic political motives that will become apparent as we emerge from one form of political thinking existing over 20 years to a total new way of thinking.

Big Candy

The candy industry is a lot bigger than we thought it was and is 75 per cent or more bigger than the entire cosmetic, fragrance and toilet preparations industry, even including such staples as tooth paste and shaving cream.

According to a survey released by the National Association of Tobacco distributors the candy industry in 1951 reached at retail a total dollar volume of $1,620,000,000. This industry also reaches far beyond the cosmetic industry in the number of retailers selling its products and is somewhat like the cosmetic industry in having a wide variety of different kinds of retail outlets acting as salesmen. More than 1,300,000 retail outlets sell candy. These retail outlets are serviced by tobacco distributors who account for 46.2 per cent of the candy; confectionery distributors who have 35 per cent; grocery wholesalers who have 9.8 per cent; other food wholesalers 6.4 per cent; drug wholesalers 0.7 per cent and other miscellaneous wholesale distributors who account for 1.3 per cent.

The different kinds of retail stores selling candy shape up as follows:

Independent food stores	20.7 per cent
Drug stores	16.2 " "
Supermarket food stores	14.3 " "
Cigar stores and stands	9.7 " "
Theatre and amusement places	9.2 " "
Vending machines	4.8 " "
Military installations	3.4 " "
Department and variety stores	3.3 " "
Restaurants and eating places	2.7 " "
Gasoline stations and road stands	1.2 " "
All others	14.5 " "

In spite of this enormous total industry volume and this very large and very diversified system of distribution no candy or confectionery manufacturer appeared on the list of the country's top 100 national advertisers in 1951.

Serendipity

Hardly anyone in research would ever deny that luck is one of the essential ingredients in a successful program. That is why so many of the most famous inventions have appeared under the names of individuals not connected with any famous research laboratory and it is also why many of the most important discoveries, including penicillin, for instance, have come about through a chance observation or something of that kind where luck combined with skill and imagination have been the three essential factors which made this discovery possible.

Dr. Irving Langmuir who is one of our top leaders of scientific thought brought this out clearly in a recent informal talk at the General Electric Research Laboratory. Dr. Langmuir used the word "Serendipity" and defined it as "the art of profiting from unexpected occurrences."

"A large part of a laboratory's work is based on that," he said, "you don't know all the things that are going to happen. Too many of them are unexpected and it is many of these unexpected things that are going to be the most profitable, the most useful things you do."

Probably the most essential qualification of a research man is the ever constant awareness that at any moment in his work something could happen which on the surface has no significance, but which in actuality could represent a great new discovery. That is the kind of a qualification in research that doesn't necessarily come with a Ph.D."

Heresy

One of the recent Government market analyses to hit the front page in nearly every newspaper with a smack is the announcement that the American people have been spending an average of more than $400 per year over and above what they are earning.

This makes us wonder just what all the big sales executives mean in their recent speeches where they all agreed that the number one problem in America is more and better salesmanship. How much further can we push the average American family into debt?

Troubled Tooth Paste

Chlorophyll is certainly upsetting the tooth paste market. According to the semi-annual survey in New York City by WOR the green tooth paste is making rapid inroads on this market.

Although chlorophyll in tooth paste has only been a factor in the New York dentifrice market for several months it is now found in the homes of 25.8 per cent of the families surveyed.

Also according to this survey the ammoniated brands are losing ground.

It would seem to the objective observer that the dentifrice people are in for a life of turmoil and trouble. The public seems to be rapidly forgetting the fact that the basic function of a dentifrice is to cleanse the teeth and have shown a strong tendency to tumble overboard on any therapeutic claim which seems to have a moderately substantial therapeutic background.

Sheffield TUBES
are selected by Helene Curtis Industries as the ideal container for their Cholesterol Hair and Scalp Conditioner. Woman's concern with beauty is age-old, and achieves classic expression in this statue ...Venus With The Unguent Jar. To brilliantly express the appeal of your product, select Sheffield Process collapsible tubes —a modern container for modern woman, notable for perfect color-printing on tube metals, sleek cap styling, utmost convenience, and positive protection of your product. See Sheffield first ...to create the plus that will make your packaging stand out.
Helene Curtis
cholesterol
CONCENTRATED HAIR AND SCALP
CONDITIONER
THE SHEFFIELD TUBE CORPORATION
Home Office: New London, Conn.
Sales Offices:
New York, Chicago, Los Angeles

Gleaming, lustrous Opticlear Vials keep contents fresh and clean.

Pack in beauty – pack in KIMBLE OPTICLEAR VIALS

Show off the superiority of your product, and give it safe protection in handsome Kimble Opticlear Vials.

These trim, sparkling containers keep contents fresh, dry and clean . . . free from dust, dirt and moisture.

Inside a Kimble Opticlear Vial your product can be safely stored in refrigerators or bathroom medicine cabinets. New, resilient, plastic stoppers keep contents dry with a positive moisture-proof seal.

Distinctive Opticlear Vials improve the salability of every dry product packaged in them. See how attractive your product will look, too. Write now, and we'll send you free samples of the sizes you use.

KIMBLE GLASS COMPANY
Toledo 1, Ohio

Subsidiary of Owens-Illinois Glass Company

There is no reason to believe that the people who are building up a substantial volume of sales on the chlorophyll tooth paste will necessarily be allowed to rest on their laurels for many years or even months ahead. Fluorine and penicillin are still in the background, and Heaven only knows what is just around the corner.

Star Salesman Wanted

Never underestimate the power of the retailer. He's the fellow who controls display space.

There is plenty of evidence that even the most powerful national brands can find themselves among the lost brands saleswise, if they end up under drastically unfavorable display positions such as the shelf down around the ankles.

Adding to the very large collection of evidence as to just how important display is saleswise, the Curtis Publishing Company has just come up with a series of studies. According to this study, shopping carts and counter and displays can increase sales in food stores by as much as 140 per cent. In a series of tests in a Des Moines store the sales of three products were increased 82.3 per cent as a result of display changes. In a Philadelphia store when products were given special display on gondola ends, the food store found 10,962 units were sold as against only 4,918 when these products were displayed on ordinary shelves. Sales of one product went up 1,217 per cent.

In another test in Springfield, Massachusetts shopping cart displays increased sales of selected packaged food products by more than 500 per cent.

It looks to us as if self-service retailing is going to create a demand for a great many more big time star salesmen. While this method of retailing may increase the importance of advertising, as almost everyone in that particular profession are joyfully proclaiming, it seems very clear to us that it will bring to the front much more vividly the realization that brilliant selling at the retail level will be even more important.

Grocery Wholesalers on the Way

Just what it means when a wholesale grocer enters the drug and toiletry field will be shown to the trade as the Hudson's Wholesale Grocery Company of Lyndhurst, New Jersey takes over the products of this industry to wholesale to his 5,600 customers in New York and New Jersey.

This food wholesaler will carry about 300 fast selling drug and cosmetic products. Its announced policy is to price all these items from 10 to 15 per cent below competitive wholesale prices.

Milton Heir, Hudson's Director of Toiletry Purchases has been quoted as saying that this price policy can be applied to drug and toiletry items because Hudson does not have to add any additional trucking or warehousing facilities to enter the toiletry business but that they can use the system whereby they deliver food in order to by-pass many of the expenses which the food store now pays in operating with rack jobbers and other suppliers.

According to a number of Hudson's retail customers the rack jobber does not pass on to the retailer the manufacturers' discounts and special promotion allowances and that the retail margin of profit when operating with a rack jobber is limited to a flat percentage.

In addition to this some retailers are complaining that the servicing of the store by the jobber in many cases does not conform with the store standard and that some jobbers are more interested in pushing items in which he makes an extra margin than in developing the overall profit for the store on that department.

Hudson's plan is to give the retail food store the largest profit margin possible and to provide the store with a full line of national brands which he can merchandise in his own way. All deliveries will be incorporated with the regular grocery orders. Hudson's believes that between 2,000 and 3,000 of their customers will have their own toiletry departments in operation by the end of the year.

It's the Rack Jobber

In the recent "Survey of Wholesale Grocers Profit and Loss Figures," 117 wholesale grocers reporting, 108 of these companies carried tobacco, 67 hardware, and 14 drugs.

Philly Facts

Students of the market research class of Temple University have been making a study of the "Buying habits of Philadelphia families."

In a preliminary report it was found that 78 per cent of the women use an underarm deodorant and 98 per cent said that they purchased a special face soap, and 31 per cent purchased home permanent wave kits.

50 Years

The Gair Cartons Division of the Robert Gair Company at Piermont, New York is celebrating its 50th Anniversary this year.

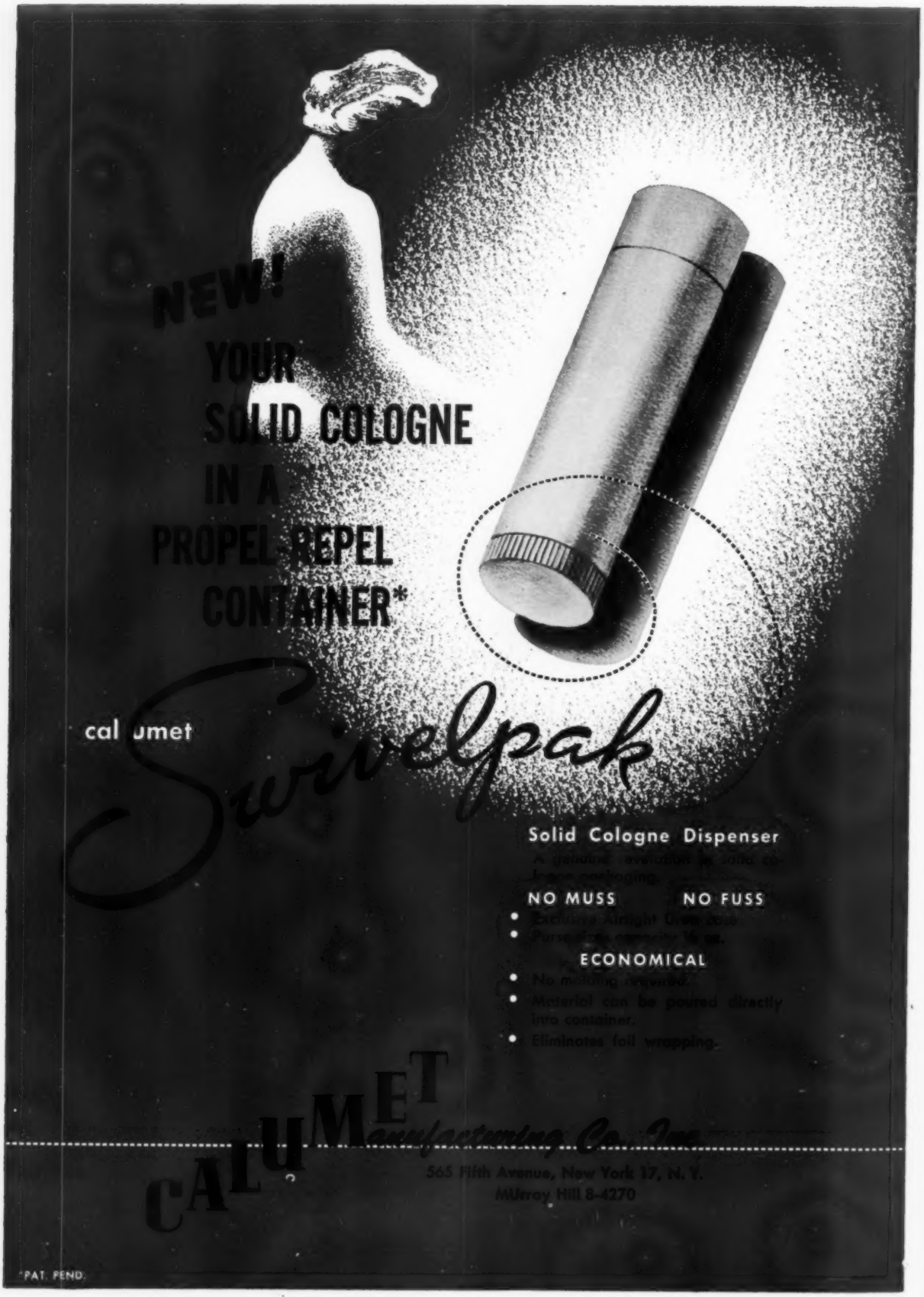
Detergent Soap

Making a detergent into a toilet soap has been a long time coming. Several attempts have been made but so far as we know no detergent toilet soap has made a place for itself yet in this market. Now we understand that Proctor and Gamble is making tests in two different market sections on a detergent toilet soap. The theme used in advertising is: "Gets your skin cleaner, clearer, fresher than any other toilet soap."

Another Candy Medicine

Candy for kids is one of the biggest businesses of the United States. As we report elsewhere in this column, the total candy industry amounts to over $1,600,000,000 a year with over half of that in the bar and hard candy forms that children love.

The drug industry has not failed to notice the strong appetite of children for a flavored sweet and many products are now on the market in children's size medicines with popular flavors. The latest to move over into this circle is the Bayer Company, Division


NEW!
YOUR
SOLID COLOGNE
IN A
PROPEL-REPEL
CONTAINER*
cal umet
Swivelpak
Solid Cologne Dispenser
NO MUSS NO FUSS
ECONOMICAL
CALUMET
565 Fifth Avenue, New York 17, N. Y.
MUrray Hill 8-4270
*PAT. PEND.

of Sterling drug with a flavored children's size aspirin. Not only for children, but for the adults as well, the flavoring of medicine is making enormous strides in the pharmaceeutical industry.

Come Again

An old, old timer will soon appear again on the American market with a great deal more vigor in promotion. Pear's Soap is a 162-year-old product, for very many years famous in England, and at one time around the Gay Nineties a leading soap in this country. Several years ago it was introduced in this country but did not seem to regain any sort of a foothold. Now Harriet Hubbard Ayer a subsidiary of Lever Brothers is taking over distribution for Fear's which is made in England by Unilever and it will be introduced with strong publicity to this market as "A Soap that was born in the English mist" and "English rain water in its formula."

Where People Buy

This industry nowadays is very interested in statistics which show the "place of purchase" for toilet articles and cosmetics. Manufacturers whose products are primarily based on the department store or the drug store or the variety store are avidly interested in anything which shows a change in public preference for the kind of store which is a basic part of their distribution.

Just recently the Illinois Daily Newspaper Markets of Springfield, Ill. released a study on this subject for 32 Illinois cities well distributed over the state.

It would seem to be a fair conclusion from this study that public preference for a place to buy cosmetics is determined not so much by the kind of store as by the kind of merchant. The good salesman, with a flair for department arrangement and display and with sound marketing principles is the one who gets the cosmetic business in a community, not the type of store.

For instance, let's look at the cosmetic business in department stores in these 32 Illinois cities. These stores, in all of these cities, average 19.9 per cent of the number of cosmetic customers. But in Elgin, department stores are favored by 42.5 per cent of cosmetic shoppers, while in eleven other of these thirty-two Illinois cities department stores get less than 10 per cent of the cosmetic customers.

The drug stores' average is 48 per cent. But here again is a variation with 71.7 in Cairo and 26.3 per cent in Champaign-Urbana.

Grocery stores average 7.1 per cent in customer preference for buying cosmetics. But in Kewanee grocery stores get 18.4 per cent of the customers and in Elgin, home of department store supremacy, they rate 0.9 per cent.

House-to-house salesmen have the edge on 15.1 per cent of the customers. In Nacomb they reach a high of 34.2 per cent and in Bloomington drop to 5 per cent.

It doesn't look as if American women have any sentimental loyalty to any particular kind of a store where they like to buy their cosmetics. It does look as if they responded to good intelligent merchandising.

New Packaging for Barbara Gould

Barbara Gould, Inc. is packaging its products in glistening white, fired bottles and "White-White" jars, labeled with Barbara Gould Cerulean Blue on gold foil. Distinctive white embossed lettering is used for the names of the preparations. The Barbara Gould signature appears in gold, embossed lettering.

Polyethylene Jars

Plax Corp. is now producing blow-molded polyethylene jars for application in the cosmetic, drug and other fields. The flexible jar, which will not crack if its contents freeze, weighs as little as one-tenth the weight of some glass counterparts. The jars are translucent, permitting the color of the product to become part of the package, and they are available in a range of colors. They can be printed or labeled with special embossed surface effects such as lettering, designs or panels.

Blow-molded with a ridge around the bottom, the uncapped jars may be shipped with the neck of one around the ridge of the jar in front of it, thereby saving shipping space.

Small Company Research

In this swift age of research where so many new products, new materials, new methods and new equipment are being offered to manufacturers to help them in the competitive race, what is the small company doing to help its position?

A recent survey by Standard Factors Corporation, a company which specializes in financing factory inventory, loans and accounts receivable turned up the following material from 726 manufacturers with whom it does business. None of these companies employed more than 150 people, putting them very much in the small business classification.

Very few of these companies seek outside professional advice or research. As a matter of fact, a very high percentage take a very casual attitude toward this swift age of new products and devices. In one of the questionnaires, the heads of these companies were asked where they got technical advice on new or substitute materials and answered by saying that 26.4 per cent of them received this advice from somebody in the plant and 32.9 per cent said that they got these ideas out of their own experience.

When these business men were asked specifically where they obtained their information on new raw materials or products which would have value in their business, they replied as follows:

17.6	per	cent	from	suppliers
17.6	"	"	"	trade publications
29.5	"	"	"	trade associations
5.9	"	"	"	Government sources
17.6	"	"	"	laboratory research

This survey found that only 3.3 per cent of the manufacturers had any systematic plan for checking and evaluating new materials, methods or equipment.

MIDGETS SELL BIG!

Continental HALF-SIZE Aerosols get new customers for your liquid and foam products

You tap a whole new market when you offer your liquid or foam-type products in Continental's midget aerosol containers. You get the people who can't use the regular size, those who want to "sample it," and those more concerned with lower first cost than overall economy.

Continental's midget aerosol cans are miniature, half-size editions of their big 12-oz. brothers. They come in the same domed-top (1-inch curl opening) and concave styles. They take the same standard valves. And they perform just as beautifully.

For details and success stories *in your field,* just call the nearest Continental office.

Hold 6-oz. of average product

Domed-top or concave styles

Volume builders for makers of—

Shaving cream, shampoos, hair lacquers and other toiletries

Insecticides, moth proofing, room deodorants, artificial snow, etc.

Paints, lacquers, plastic sprays, oil or aqueous solutions

CONTINENTAL CAN COMPANY

CONTINENTAL CAN BUILDING, 100 East 42nd Street, New York 17, N. Y.

EASTERN DIVISION: 100 E. 42nd St., New York 17

CENTRAL DIVISION: 135 So. La Salle St., Chicago 3

PACIFIC DIVISION: Russ Building, San Francisco 4

Doings

Lakeside Laboratories has announced the preparation of Neohydrin, an oral diuretic, which is said to have 71 per cent of the potency of the best injectable diuretic, and will greatly simplify the treatment of patients with edema.

Smith, Kline & French Laboratories is introducing Dexedrine Spansules, a new pharmaceutical form that makes possible, for the first time, a completely different oral dosage principle —that of sustained uniform release of medication. Each Spansule contains more than 100 tiny pellets with varying disintegration times. This permits the Dexedrine to be released gradually, yet uniformly, over a span of 8 to 10 hours, with the therapeutic effect of Dexedrine lasting for about 12 hours.

Yardley has designed a new combination package featuring Dusting Powder and Toilet Water, presented in an acetate-covered box. Four Yardley fragrances are available in the packages, English Lavender, April Violets, Bond Street and Lotus.

Hazel Bishop Inc. will sponsor the television Ralph Edwards new show, "This Is Your Life," for the coming year at $40,000 a week. No-Smear Lipstick and Complexion Glow will be promoted on each show.

Kings Men, Ltd. has developed a unique package which "presents" the gift as it is open. Maintaining the castle theme of Kings Men displays, the Royal Crystal and Gold Flagons are housed in replicas of ancient castles. As the package top is lifted, the drawbridge automatically lowers, revealing the Toiletries inside.

Winthrop-Stearns is now offering Milibis, an amebicidal preparation, in bottles of 500 tablets of 0.5 Gm. each. It was previously obtainable in 25's only.

U. S. Vitamin Corp. has introduced Dodecavite Crystalline, a clear, stable, isotonic saline solution of vitamin B_{12} crystalline, for use in the treatment of subacute combined sclerosis, diabetic neuritis, trigeminal neuritis, herbes zoster and tabes dorsalis, among other neural conditions.

George A. Breon & Co. is distributing Acorto Gel, a long-acting form of ACTH, directly to the medical profession. It is a long-lasting adrenocorticotropic hormone in a mixture of 20 per cent gelatin with 30 per cent propylene glycol and 0.5 per cent phenol. It is designed to deliver therapeutic effects over a prolonged period, thus reducing the frequency of injections to one or two times a day, instead of every 2 to 3 hours as is the case with aqueous ACTH.

Paula Harris Sales Co. has prepared Cloro-Fresh, a new skin freshener for facial and body application. It contains chlorophyll, fungicide G-4, and germicide G-11.

Doeskin Products, Inc. will begin sponsoring Kate Smith's TV afternoon show next month.

Winthrop - Stearns has introduced Fergon Compound Elixir, a preparation containing vitamin B complex including B_{12}. This product is an addition to the company's line of Fergon preparations for the treatment of anemias due to iron deficiency.

Harriet Hubbard Ayer is presenting a new Desk and Travel Kit, which can be slipped into a desk drawer, carried in an overnight bag, or double as a pocket-book. This kit, of washable, white plastic, contains six packages of beauty and grooming essentials—Liquid Cleaner, First Blush, Pressed Powder, Rouge, Lipstick, and Ayer Dry Deodorant.

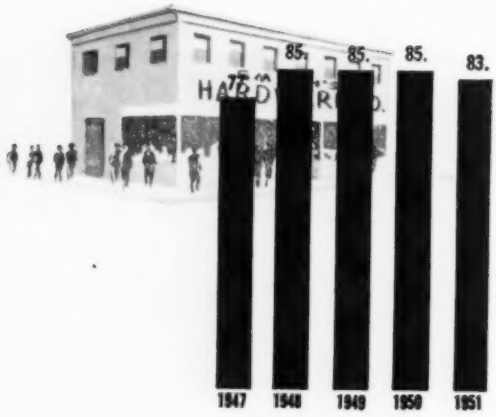
Kremers-Urban Co. has introduced Phyatromine—H, injectible, an antispasmodic for relief of skeletal-muscle spasm in osteoarthritis, rheumatoid arthritis, fibrositis, bursitis, myositis and in relaxing muscles and joints; and Kused—capsules useful in the treatment of anxiety tension states and anxiety neuroses.

Charles Antell has a new Junior ¾-ounce $1 size of their Formula No. 9, which will retail at 89 cents.

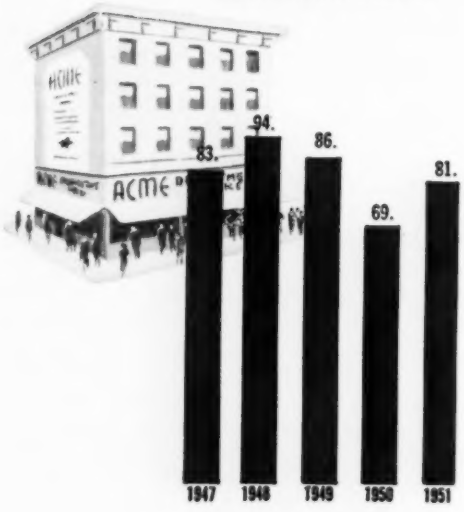
Dr. Salsbury's Laboratories, Charles City, Iowa, has a new product for chronic respiratory disease, Dr. Salsbury's Paranate. It has been extensively tested in broiler-raising areas under conditions of actual C.R.D. outbreaks.

Eastman Organic Chemicals Department of Distillation Products Industries is offering highly purified crystallized d-v-tocopherol, a low potency form of vitamin E. This is one of 12 new chemicals introduced. The material is being made available for biological and biochemical research on the action and the metabolism of the tocopherols. The complete list and prices may be obtained by writing the company at Rochester, N. Y.

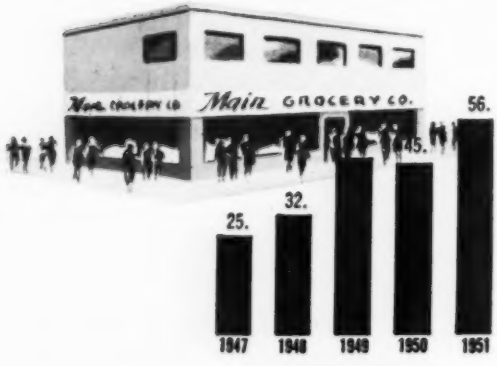
(Continued on page 336)



HARDWARE STORES



DEPARTMENT STORES



GROCERY STORES

Latest Du Pont

3 OUT OF 4 STOCK

Reveals widespread expansion

In the latest Du Pont study of the aerosol market, over 2000 dealers in six different types of retail outlets were asked: "Do you stock aerosol products?" Three out of four dealers answered "Yes." This reflects the substantial growth of the aerosol market since 1947, when only 57% of dealers interviewed carried aerosols of any kind.

The charts under each type of outlet reveal the year-by-year increase in the number of stores stocking aerosol products. During the past five years, the greatest percentage gains have been in grocery stores, variety stores and service stations. Only department stores dropped off slightly overall, while still showing substantial gains in 1951 over 1950. Drug stores are well in the lead among retail outlets, with 96% carrying aerosols.

DEALERS CONSIDER AEROSOLS BETTER. Latest survey figures show that 82% of dealers stocking aerosols consider this modern method of dispensing better than any other method. Less than 2% prefer other methods. This strong dealer-preference is an important factor in expanding the market for aerosols . . . and a powerful sales-force working for manufacturers of aerosol products.

CONSUMERS AGREE. About 95% of all consumers who bought aerosols expressed satisfaction with their purchase. This high percentage of customer approval leads to increased sales . . . as satisfied customers re-buy . . . and tell others about their satisfaction.

VARIETY OF AEROSOL PRODUCTS GROWS. Still another reason for the aerosol market expansion is the steadily increasing variety of products packed in aerosol form. In

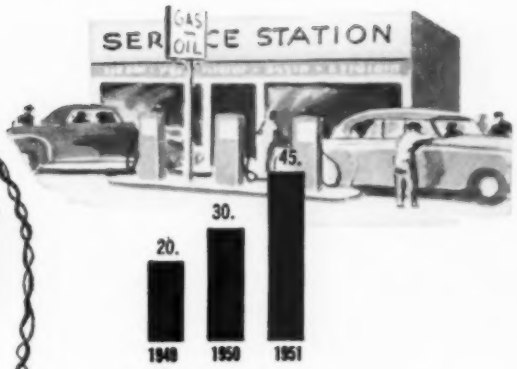
DU PONT
REG. U.S. PAT. OFF.
150th Anniversary
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

"FREON" SAFE

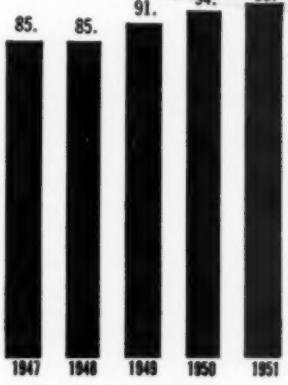
survey shows:

DEALERS NOW AEROSOLS

of aerosol market since 1947

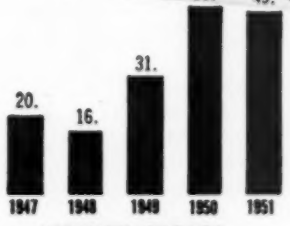


SERVICE STATIONS



DRUG STORES

addition to insecticides—which are tops in popularity—many other products, such as room deodorants, personal deodorants, moth proofers, shaving lathers, hair sprays and lotions, waxes and polishes are being successfully marketed in aerosol form.



VARIETY STORES

Versatility... Dependability of "Freon" Propellents Stimulate Growth of Aerosol Market

The rapid growth of the aerosol market has been aided by the versatility and dependability of "Freon" Safe Propellents . . . the most widely used of all propellents. Twenty-one different propellents were supplied in 1951 for every type of aerosol—space-spray, surface-coating spray and foam product. Manufacturers know that "Freon" propellents are tailored to meet every aerosol requirement as to pressure, particle size, stability and solubility characteristics. They know, too, that these propellents can be depended on for purity and uniform quality. "Freon" propellents are completely safe . . . nonflammable, nonexplosive, virtually nontoxic . . . harmless to fabrics, furs and finishes.

If you would like to find out more about the possibilities of packaging your product in aerosol form, Du Pont's technical service is ready to help you in every step . . . from market exploration to production operations. For full information, write: E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

PROPELLENTS

KINETIC
REG. U. S. PAT. OFF.

"FREON" is Du Pont's registered trade-mark for its fluorinated hydrocarbon propellents.

Doin's ...

(Continued from Page 333)

West-Ward Inc. has announced that the following items are available for immediate delivery: Secobarbital Sodium Capsules and Amphetamine, and Methyl Cellulose with Dicalcium Phosphate Tablets.

The House of Twain, Inc. has developed an insect repellent, No-Bite, in stick form, which has been Government approved and field tested. It is available in two sizes, standard stick at 69 cents and a large economy size for $1.

The Gaby Company recently introduced the Gaby Deodorant Stick with Chlorophyll, an under-arm deodorant which can be rubbed lightly over the skin. It dries at once, does not stain clothes, and is said to be entirely safe for normal skins.

Allied Dentifrice Ass'n. has introduced an ammoniated tooth paste with chlorophyll, called D-6 Dentists' Prescribed, to retail drug outlets. The tube and package, designed by Sheffield Tube Corp., are white with cherry red and mint green lettering.

Peggy Sage has put a Perfumed Spray Deodorant on the market, which not only stops odor but checks perspiration as well. The squeeze-spray bottle is made of pale French-gray polyethylene. It is gold-capped and "Peggy Sage Perfumed Spray Deodorant" is imprinted in gold.

Shulton has a new skin balm, Desert Flower Hand and Body Lotion, retailing for $1, plus tax, which contains a special skin toning ingredient, replaces natural oils washed away or weathered off, lubricates without greasiness, and melts into the skin.

The Vitamin Corp. of America last month introduced Rybutol, a high-potency vitamin-B complex capsule, to key Canadian markets with an extensive advertising and merchandising campaign. The distribution of Rybutol in Canada is being handled by Harco Laboratories, Ltd., Toronto, a subsidiary of the company.

Twisto Container Corp. is producing a portable tooth paste - dispensing toothbrush, Twisto, the size and shape of a large fountain pen. The plastic device, made in four different pastel colors, holds from six to 10 days' supply of tooth paste, which in turn is fed to the quick-drying nylon bristles by a simple twist and push of the container handle. When not in use, the toothbrush is covered like a fountain pen with a clip-on cap, and may be carried safely in the pocket, purse or lunch kit.

Pfizer has added two new feed supplements, Vitamin A and riboflavin, to its animal feeds line. The vitamin A supplement consists of the gelatin-stabilized vitamin together with terramycin press cake, calcium phosphate and soybean oil meal. The riboflavin supplement will be mixed in a powder composed of riboflavin-terramycin-streptomycin presscake and calcium phosphate.

Pfizer has also announced the development of a single-bottle terramycin oral suspension and the discontinuation of terramycin elixir.

Bounce! Inc. has formulated Bounce!, a new liquid spray, which is said to give instant relief to tired feet. It can be sprayed through stockings or socks. It is necessary to remove the shoes.

Westwood Pharmaceuticals has re packaged its all-new Lowila Cake in an eye-appealing brown and blue.

Squibb now has its Novoxil Ointment (for the treatment of mastitis in dry cows and for application to cuts) in a 7.5-gram "instant-use" disposable tube. It replaces Novoxil Liquid, used for many years in the treatment of mastitis. The change to the ointment in one-treatment disposable tubes has eliminated the danger of passing infection from one quarter to another and from cow to cow due to improperly sterilized cannulas used in liquid treatment.

Gourielli has introduced the new "Five O'Clock" Swivel Cologne Stick for daytime use. Packaged in a streamlined easy-to-carry, easy-to-use, black cylinder lettered in gold, the cologne stick operates like a jumbo size lipstick.

Abbott has introduced Isolyn, its brand of Isoniazide, as an adjunct to treatment of streptomycin-resistant tuberculosis or tuberculosis not responding to previous therapy.

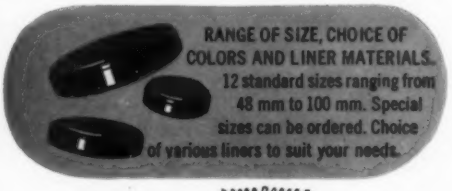
The Lambert Co. and Prophylactic Co. will next month begin co-sponsoring "The Adventures of Ozzie and Harriet" over both television and radio networks. The program will advertise Listerine Antiseptic, Listerine tooth paste and Prophylactic toothbrushes, whose combined sales are currently at a 20-year high.

Toni's Toni Creme Rinse is now being marketed in a newly-designed bottle on drug, department, variety and grocery store counters across the country, and is being advertised nationally on both network radio and television.

HARD, SCRATCH-RESISTANT COATINGS. Bright, sparkling colors for instant sales appeal. Handsomely lacquered or lithographed in colors to suit your requirements.

SIMPLE, EFFICIENT CONSTRUCTION. Liner and thread are inserted into a sheet metal shell. The thread holds the liner in position, and the lower edge of the shell locks the thread in place.

PATENTED THREAD DESIGN. Spins on freely. Forms a perfect-fitting seal, but won't "freeze" to container. Only MeritSEAL has this exclusive design.

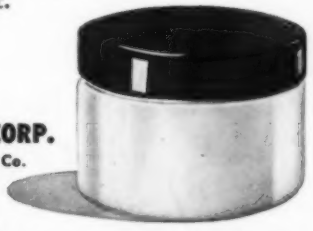


RANGE OF SIZE, CHOICE OF COLORS AND LINER MATERIALS. 12 standard sizes ranging from 48 mm to 100 mm. Special sizes can be ordered. Choice of various liners to suit your needs.

Yes, production men know that MeritSEAL can be depended upon for economical, trouble-free performance because its unique design represents an entirely new concept of cap construction. It spins easily onto jars on high-speed production lines. And MeritSEAL assures safe, efficient sealing that really protects the product.

In addition, cosmetic manufacturers know how it compliments and enhances their product. Behind-the-counter saleswomen praise the eye-appealing displays—and the fast sales—they can make with products using MeritSEAL. And, of course, the women who buy it love it—for its smooth, trim lines . . . smart, glistening colors . . . and its distinctive look and feel of luxury.

See for yourself how really attractive and efficient MeritSEAL is. We'll be glad to send full information and samples. Simply state your color preference and sizes needed for your product.



CROWN MeritSEAL

CROWN CORK SPECIALTY CORP.
Division of Crown Cork and Seal Co.
ST. LOUIS 15, MISSOURI

Main Office: St. Louis, Mo. • Chicago: 401 W. Ontario Street

New York: 60 East Forty-Second Street • Western Representative: Western Crown Cork & Seal Corporation . . . San Francisco . . . Los Angeles

Cosmetics

There are many types of beauty.

There are many types of beauty preparations.

And there are many types of glistening H-A cosmetic containers to complement your product and to compliment the buyer on her good taste.

Hazel-Atlas Glass Co.
WHEELING·W·VA·

Photo courtesy William R. Warner Division of Warner-Hudnut, Inc.

Custom Protection

—the safe, smart way to package pharmaceuticals

Shock, vibration, moisture . . . *all* of these hazards cause great losses to manufacturers each year. Yet many companies—making many varieties of pharmaceuticals—have found the change to *custom protection* with Kimberly-Clark Interior Packaging—KIMPAK,* results in faster, more streamlined packaging operations, and a virtual end to product damage in transit. KIMPAK is soft, highly comformable, and easy to apply as wrapping paper. It will absorb up to 16 times its own weight in moisture within 30 seconds, and is widely used as absorbent packaging material in mailing liquid samples to physicians. Regardless of whether you package pills, tablets, capsules—liquids in bottles, jars, tubes, vials or ampoules—KIMPAK can be "tailored" to your particular needs. For information, write to Kimberly-Clark Corporation, Dept. J-1, Neenah, Wisconsin.

KIMPAK INTERIOR PACKAGING

A Product of **Kimberly-Clark**

*REG. U. S. & FOREIGN COUNTRIES

NEW PERFECTION = DROPPING PARTS

QUALITY UNIFORMITY CLEANLINESS SERVICE

#1

Non-rolling, extra-depth, Bakelite Cap; thick flange rubber bulb; Saftee ballglass.

#3

Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

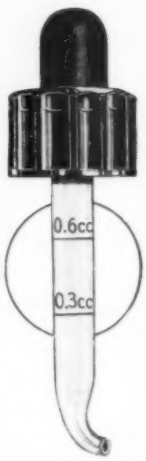
#4

Metal cap; oil-resisting Amekine synthetic rubber bulb; blunt glass.

By the Originators and World's Largest Manufacturers of Screw-Cap Dropping Parts

Since 1931, when the screw-cap dropping part was originated by Pennsylvania Glass Products, the world-wide acceptance of New Perfection has been increasing. The fact that the New Perfection Dropping Part is the most practical and sanitary dispensing unit for liquid preparations accounts for its popularity and the steady growth of our operations is due to the efficiency with which our products are manufactured and distributed.

Our exacting standards for quality, uniformity and cleanliness guarantee that each shipment will meet your most rigid specifications. Our policy is to produce and sell the best in dropping parts—and thus merit your continued patronage in the future as we have in the past.



#2

Non-rolling, extra-depth, Bakelite cap; thick flange rubber bulb; special bent glass (CALIBRATED in color).

New Modernistic bottle. Designed to lie flat for convenient labeling. Oval front provides ample label space.

New Perfection Dropping Parts, either plain or CALIBRATED IN COLOR, can be supplied to fit your bottle or with our new Modernistic style bottles. Our bottles are available in Amber, Blue, Green or Clear glass in 2 cc, ⅛, ¼, ½, 1 and 2 oz. capacities. Special oil-resisting AMEKINE synthetic rubber bulbs can be supplied for use with oil products, or natural rubber bulbs for general usage.

Write for Samples and Quotations

PENNSYLVANIA GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.

BRIGG'S NEW KLEAN SPOT KITS

...GO TO MARKET IN

GAIR PLASTAFOL

COMBINATION CARTONS

This Gair Plastafol combination carton contains three packaging materials made by Gair—

- **FOILINE**—sparkling foil lined board
- **TUFBORD**—for extra strength
- **PLASTAFOL**—the rigid transparency with maximum protection
- **ONLY GAIR MAKES ALL THREE!**

For visibility, protection and sales appeal try the Plastafol combination carton. You are cordially invited to inquire how Plastafol Combination Packages can be adapted to your products.

GAIR

PAPERBOARD
FOLDING CARTONS
SHIPPING CONTAINERS

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK • TORONTO

By the gallon or ounce...

Plaxpak Carboy Bottles, recent Plax development, bounced but did not break when struck by a truck going 50 miles per hour. This dramatic proof of unbreakability emphasizes the new safety and convenience available to those who make, ship, handle and use hazardous, costly or corrosive chemicals.

Blow-molded in a single piece in 6½ and 13 gallon capacities, the giant polyethylene containers offer the additional advantages of lightweight and chemical inertness. They are also available encased in plywood drums as complete carboy units.

OTHER EMHART PRODUCTS INCLUDE:

AUTOMATIC PACKAGING EQUIPMENT
STANDARD-KNAPP
Division of Emhart Mfg. Co.
PORTLAND, CONNECTICUT

GLASS MAKING MACHINES
HARTFORD-EMPIRE CO.
Division of Emhart Mfg. Co.
HARTFORD 2, CONNECTICUT

HIGH SPEED AUTOMATIC PRESSES
HENRY & WRIGHT
Division of Emhart Mfg. Co.
HARTFORD 5, CONNECTICUT

PREMIUM QUALITY STAMPING PRESSES
THE V & O PRESS CO.
Division of Emhart Mfg. Co.
HUDSON, NEW YORK

your product's easier to use in Plaxpak® bottles

Catch Women the new, easy way by packaging in Plaxpak bottles. For example, all the user has to do is squeeze the bottle to spray this lacquer neatly on her hairdo in a fine mist. You can offer packaging conveniences with the squeezable Plaxpak bottle that you can't with any other type package.

Easy Way to Distill Water

is provided by Plaxpak bottle. A squeeze of the flexible walls forces tap water to percolate through a demineralizing powder (also in a Plaxpak bottle). Out comes pure, "distilled" water in a controlled stream.

Perfect for Powders is the squeezable Plaxpak bottle. Just pinch the walls and powder comes out in a fine spray. Easy, neat and sanitary to dispense. If powder cakes, it can be loosened by simply kneading the bottle.

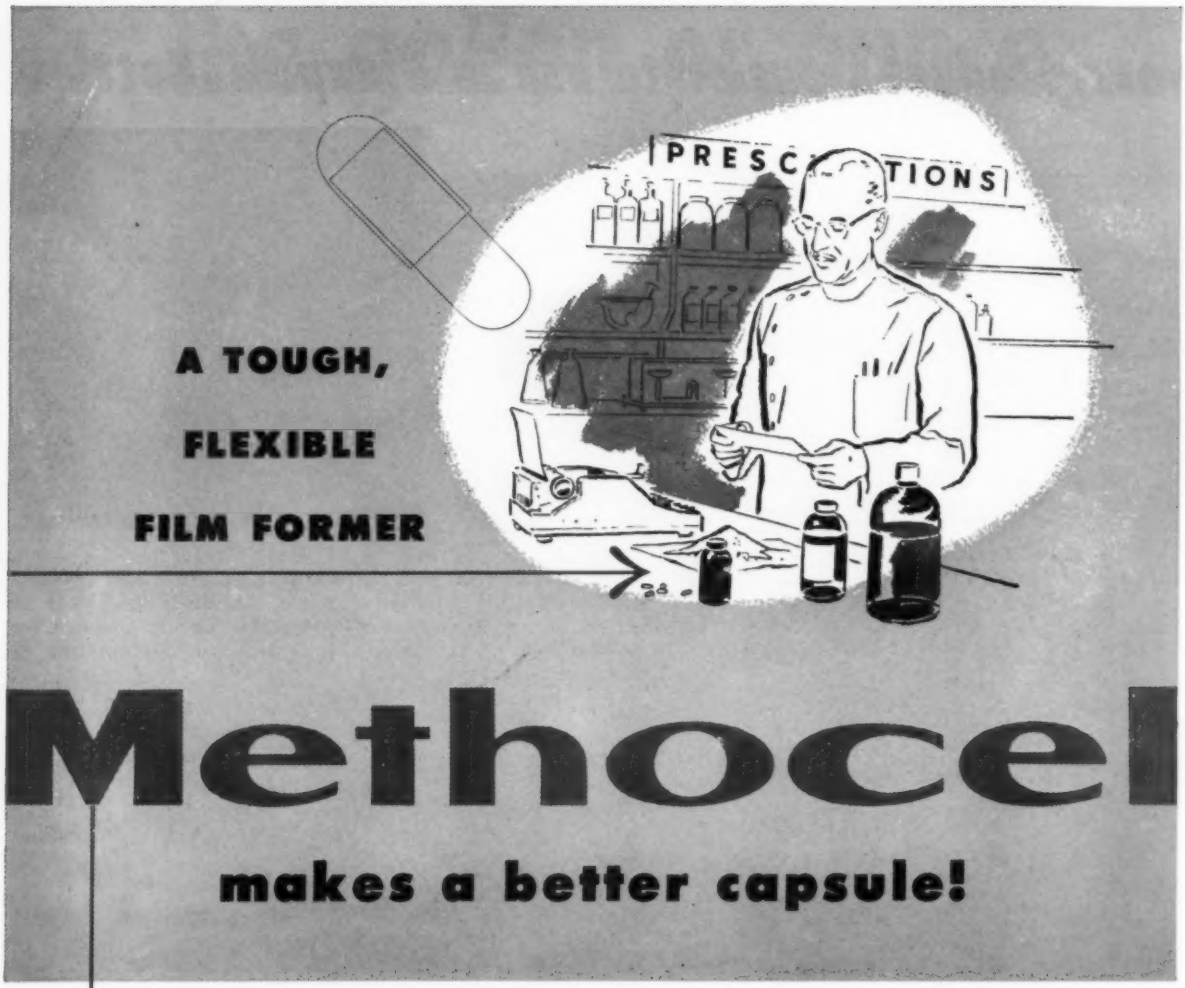
Only the best is good enough

HELPFUL PLAX LITERATURE
Catalogs on Plaxpak bottles as well as the thermoplastic materials produced by Plax are available on request.

PLAX
FOR PLASTICS
NOT SUBSTITUTES IMPROVEMENTS

PLAX CORPORATION
Subsidiary of Emhart Mfg. Co.
WEST HARTFORD, CONNECTICUT
In Canada: Plax Canada, Ltd., Toronto
District Sales Offices: New York, Chicago and other principal cities

Plax® blow-molded products are made under the following U. S. Pats.: 2126239, 2175053, 2175054, 2230188, 2230190, 2266750, 2283751, 2349176, 2349177, 2349178.



A TOUGH,
FLEXIBLE
FILM FORMER

Methocel

makes a better capsule!

The ideal capsulating material must be tough, water-soluble, strong, and flexible. Methocel (Dow methylcellulose, N.F.) fills these exacting requirements in every way. In addition, the film formed is tough over a wide range of temperatures, minimizing breakage. This synthetic gum is also inert, odorless, tasteless and possesses high uniform purity.

Methocel's thickening, binding, suspending and film forming properties have proved valuable in many other pharmaceutical applications and in the cosmetic field as well. It has found valuable use in ointments, surgical jellies, lotions, tablets, bulk laxatives, and in the preparation of emulsions of fatty, mineral and essential oils.

Send for your free sample of powdered Methocel and receive more information on successful applications in the drug and cosmetic industries.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

Did you get your Experimental Sample?

The Dow Chemical Company
epartment ME 6 · Midland, Michigan

Wide viscosity range of Methocel available—indicate use field _____

NAME _____ TITLE _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

DOW
CHEMICALS
INDISPENSABLE TO INDUSTRY AND AGRICULTURE

News...

ADM Chlorophyll Program

The Archer-Daniels-Midland Co. has launched a comprehensive program embracing laboratory research, chemurgic development and production engineering that will raise chlorophyll to the level of a major industrial and pharmaceutical raw material, according to Thomas L. Daniels, president. The company makes no consumer products itself, but supplies raw materials of some 700 types to makers of end-use items.

THOMAS L. DANIELS

The facilities of the company, a major processor of agricultural raw materials, have been merged with the recently-acquired facilities of Chlorophyll, Inc., Neodesha, Kansas, and Keystone Chemurgic, Bethlehem, Penna.

The expanded chlorophyll program will be directed by Erwin A. Olson, vice-president, and operations will be headed by Donald G. Carpenter, recently appointed manager of ADM's chlorophyll division. As president of Keystone Chemurgic, Mr. Carpenter was one of the pioneers in the development of new uses for chlorophyll and improved extraction techniques. Charles Bowman & Co. and R. W. Greeff & Co., Inc. will be sales agents for the company's chlorophyll production.

Mr. Daniels reported that the company's solvent extraction plant at Mankato, Minn., was working to increase chlorophyll yield from its present four pounds a ton of dehydrated alfalfa to six pounds. With other facilities, the company will become the largest producer of chlorophyll in the world.

To assist industry in the more effective use of chlorophyll, ADM has established a technical development service with headquarters at Minneapolis under the direction of August J. Buzas, technical director of the company's chlorophyll division.

Sales Agencies for Lady Esther

Lady Esther, Ltd. has appointed three new sales agencies for detailing drug stores on all Lady Esther products as an adjunct to the existing sales force of the company. Central Sales Agency, New York City, will cover the five boroughs; Wyco Sales Co. will handle the greater Chicago metropolitan area; and Jones Sales Co. will cover Los Angeles, San Francisco, Portland and Seattle.

DONALD G. CARPENTER

CSC Appointments

David C. Read has joined the research and development department of Commercial Solvents Corp. as a nutritionist in the nutritional research division, and Bruce A. Melaas, as a research chemist in the automotive specialties laboratory.

Fritzsche Buys Dodge & Olcott

While it has been widely known for several weeks that Dodge & Olcott, Inc., was being sold by National Distillers Products Corporation, and while it was widely rumored that the buyer was Fritzsche Brothers, Inc., no confirmation of this transaction could be obtained. Dodge & Olcott officials some time ago admitted that the sale was taking place, but led inquirers to believe that the purchaser was individuals and not any established firm in the essential oil business. However, under date of September 2, the following statement was released by Fritzsche Brothers:

"National Distillers Products Corporation announces that it has entered into a contract covering the sale of Dodge & Olcott, Inc., a wholly-owned subsidiary, to Fritzsche Brothers, Inc.

Stanley Drug Adds Tablet Dept.

Stanley Drug Products, Inc. has added a complete tablet pressing and coating department, under the direction of Walter W. Wood, to its expanding facilities, according to E. A. Bachman, president. Mr. Wood has been prominent in tablet manufacturing for 22 years, having been associated with Abbott Laboratories for 15 years and with Haack Laboratories, for seven.

Twenty pieces of machinery have been installed by Stanley, including a Lilly capsulating machine for the production of two-piece dry-filled capsules. Stanley will accept orders for the manufacture of private tablet formulae in addition to regular-stock items.

Attending CIBS luncheon August 14 at Toots Shor's. Left to right: E. R. Ellis, Parkinson Perfumers Inc., Entertainment chairmc.., Harold Anderson, Kohnstamm & Co., membership chairman; Shockley Gamadge, Magnus, Mabee & Reynard, corresponding secretary; Gregory Thomas, Chanel Inc.; Barbara Barnes, WOR and WOR-tv personality who, with her father, Patt, forms only father-daughter team on radio, TV; Ernie Sloan, Milkmaid Inc., 2nd vice-president; Lamson Scovill, Scovill Mfg. Co., director; Bob Armstrong, Goldschmidt Chemical Corp., 1st vice-president; and Patt Barnes, radio veteran of twenty-five years.

New Plant for Warner-Hudnut

Warner-Hudnut, Inc. broke ground for a new plant on a 48-acre site at Morris Plains, N. J., late last month which is to provide additional facilities for its manufacture of pharmaceutical products. The new plant will adjoin the present laboratories built five years ago by Chilcott Laboratories, now a subsidiary of Warner-Hudnut, and will add 130,000 feet of production space.

Architect's drawing of new plant to be built for Warner-Hudnut, Inc., at Morris Plains, N. J., which will add 130,000 square feet to firm's manufacturing facilities. Structure will be used for company's expanded production of ethical and proprietary drug items, and will feature latest developments. Ground was broken on the 48-acre site in late August.

Johnson Named Warner-Hudnut V.P.

Robert S. Johnson has been appointed vice-president in charge of personnel relations of Warner-Hudnut, Inc., according to Elmer H. Bobst, president.

ROBERT S. JOHNSON

Cinn. Drug Ass'n Elections

Paul N. Wiemer, Jr., owner of the Taylor Greenwald Co., has been elected president of the Cincinnati Drug and Chemical Association along with the following officers: Owen G. Sexton, vice-president; Vernon B. Tucker, secretary; and Lawrence J. Meiners, treasurer. Trustees elected in addition to the officers were Walter M. Eller, John C. Hutchinson, S. E. Spencer, Jr., and Frank D. Nowland, past president.

Beckman Buys Berkeley Scientific

Beckman Instruments, Inc., South Pasadena, Calif., has purchased the business and assets of Berkeley Scientific Corp., Richmond, Calif., according to Dr. Arnold O. Beckman, president. The latter organization will continue as the Berkeley Scientific division of Beckman Instruments, Inc. No changes in management are contemplated.

W. K. Rosenberry, founder and president of Berkeley, becomes a vice-president of Beckman, and will remain in charge of the Richmond plant. With the addition of the new firm, the number of Beckman employees has been increased to 1400.

Rooney, Armour Sales Mgr.

John E. Rooney, Jr. has been appointed sales manager of the glycerine department for Armour & Co. He had previously been western regional manager.

Klendshoj Named Arner President

Dr. Niels C. Klendshoj, executive vice-president of the Arner Co. since 1948, has been elected president of the company, according to the board of directors. He began his career with Arner as a chemist in 1927 and was subsequently assistant plant manager, mechanical and technical director and a member of the board.

The presidency has been vacant since January, 1951, when Fred C. Arner, founder, went into semi-retirement.

NIELS C. KLENDSHOJ

Tempel Promoted by Squibb

Arthur Tempel, formerly technical assistant to the general superintendent for manufacturing, has been appointed superintendent of antibiotic fermentation at the New Brunswick laboratories of E. R. Squibb & Sons, while Albert Fusco has been appointed a department head in antibiotic manufacturing. Other additions to the staff include: Denys Brandon, formerly with Commercial Solvents, Kenneth Walter, Stanley Gussow, Gerald Simon, Leon Trimberger and William Frazier.

Mrs. Leiste Honored by Ungerer

Hazel Fraser Leiste was the guest of honor at a luncheon of Ungerer & Company's Twenty-Five-Year Club on August 11. Kenneth G. Voorhees, president, on behalf of the company, presented her with an engraved gold watch in recognition of her 25 years of service, 18 of which have been spent as his secretary. At the same time, Mr. Voorhees announced that a Bronze Plaque was being made, bearing the likeness of W. P. Ungerer, founder and first president of the company, on which all members of the Twenty-Five-Year Club will be inscribed.

Couderchet Heads Charabot in N.Y.

The old house of Charabot & Cie., Grasse, France, well known for their products and represented in this country for many years by a New York essential-oil house, are opening offices at 132 Nassau St., New York, under the recently incorporated name of Charabot & Co., Inc. This firm is a successor of Hugues Aine. Maurice G. Gouderchet, who has been closely associated with the trade for many years, is president of the new company. Charabot & Co., Inc. is the sole distributor in the United States and in Canada for the sale of both Charabot and Hugues Aine products.

The telephone number is REctor 2-6999.

MAURICE G. COUDERCHET

This tall, round Duraglas toilet bottle, #A-4719, capped with a smart lustrseal closure can help you capitalize on brand recognition at the point of purchase.

MAKE-UP makes the difference...

gives your package individuality . . . your line a family look!

With impulse buying growing, every package you send to market must have *impact* at the point of purchase.

Your product will make a hit with consumers when packaged in a distinctive Duraglas sales-package. They're economical . . . so practical in use.

There are hundreds of stock-mold Duraglas containers from which to choose one that's exactly right for your product. Then, packaging specialists at the Duraglas Center help you add glamour and sales appeal to your selection with effective designing of color, label and closure.

In today's competitive selling conditions you need to capitalize on the distinctive individuality you can give your product in a Duraglas sales-package. And remember, no matter what the market is like, it doesn't pay to let your package get out of the habit of selling every minute it is on display.

Duraglas straight-sided, tall, round toilet bottles are available in 4-oz., 6-oz., 8-oz., and 16-oz. sizes.

Duraglas packages are protectors of quality

TRADE MARK REG. U.S. PAT. OFF.

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

HEYDEN'S NEW
HARD-HITTING
ANTIBIOTIC . . .

NEOMYCIN

HIGHLY EFFECTIVE
AGAINST CUTANEOUS
INFECTIONS CAUSED BY
PSEUDOMONAS AND PROTEUS

One of the most troublesome problems of the medical profession—cutaneous infections caused by pseudomonas and proteus microorganisms—respond quickly to the action of NEOMYCIN. Consider the many advantages of this newest Heyden antibiotic, proven by research and clinical use to be unusually effective against infections of the ear, eyes, nose and skin:

(1)—NEOMYCIN is highly effective against many stubborn skin infections, including those caused by staphylococcus, proteus and pseudomonas.

(2)—It is not absorbed from the skin.

(3)—It is effective against many gram-positive and gram-negative bacteria, and more active than Bacitracin, Streptomycin and Penicillin.

(4)—NEOMYCIN is very active against pyogenic and secondary infected dermatoses.

(5)—It is water soluble and stable over a wide range of pH.

Heyden NEOMYCIN SULFATE—sold in BULK, sterile or non-sterile, to meet your requirements—is readily formulated into highly effective nosedrops, throat lozenges, ointments, eyedrops, lotions and powders.

OTHER HEYDEN ANTIBIOTICS—IN BULK

Penicillin—sealed jars of 500 million units, 1 billion units, and drums.

Crystalline Procaine Penicillin G, regular or micropulverized, sterile.

Crystalline Penicillin G Potassium, sterile.

Crystalline Penicillin G Sodium, sterile.

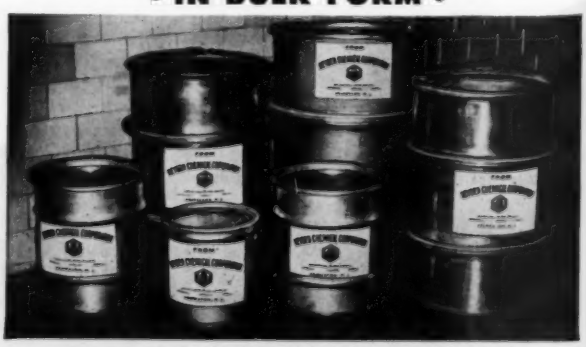
Crystalline Penicillin G Potassium, tablet grade.

Streptomycin and Dihydrostreptomycin in 1 kilogram containers.

Packaged forms (Vials) are also manufactured in all popular dosages, as well as Tablets and Troches of Penicillin (sealed in foil).

Write today for a copy of the new Heyden Neomycin Booklet (Abstract Bibliography), and the illustrated Antibiotics Brochure.

• IN BULK FORM •



• STERILE AND NON-STERILE •

HEYDEN CHEMICAL CORPORATION

342 MADISON AVENUE • NEW YORK 17, N. Y.

IN BULK . . . . . PENICILLIN • STREPTOMYCIN • NEOMYCIN

Named to Continental Can Posts

R. S. Hatfield, Frank I. Gill, and John L. Heinlein have all been appointed general managers of the central (metal) division of Continental Can Co., with full responsibility for all sales and manufacturing operations within a given district. Mr. Hatfield is general manager of the North-Central district; embracing Milwaukee, Mankato, Minn., and Chicago. Mr. Gill, the Mid-Central district; and Mr. Heinlein, the South-Central district.

This arrangement, according to W. M. Cameron, division vice-president, is a move to decentralize supervision of plants and sales offices, and thereby provide better service to customers.

R. S. HATFIELD

FRANK I. GILL

Florasynth Divisional Conference

William Lakritz, president of Florasynth Laboratories, held a mid-year sales meeting and conference with his Midwestern and Western divisional heads recently at the company's Chicago headquarters. Sales problems and related topics were discussed from the varied points of view by Mr. Lakritz, Joseph H. Fein, and Jack N. Friedman, executives. The conference received first-hand information on new items and flavor materials now in various progressive steps of research, a discussion which was led by David Lakritz, chief chemist.

Arner Tablet Inspection Machine

The Arner Co. has developed an inspection machine that permits examination of both sides of medical tablets without turning them over, according to Carlton F. Zimmerman, technical director, who said that two inspectors now check as many as 500,000 tablets for chipping and discoloration in an eight-hour day.

One girl inspector sits by a conveyor belt examining one side of the tablets, while another girl, stationed at a lower belt traveling in the opposite direction, scans the reverse side. A pulley arrangement at the end of the top belt reverses the tablets on to the lower belt.

JOHN L. HEINLEIN

Carboloy Executive Appointments

E. W. Engle has become product and process engineering manager, Carboloy department of General Electric Co.; E. E. George is now design and application engineering manager; R. A. Canning, production engineering manager; and R. L. Brownlee, administrative engineer. The entire Carboloy Engineering section, according to I. L. Wallace, manager-engineering, has been expanded to meet the increased engineering needs of the Carboloy department.

Price Retires, Honored by Friends

Herbert B. Price, who retired after 26 years as director of purchases for Sharp & Dohme, Inc. on September 1, and 44 years of service in all, was honored by a luncheon at the Union League, Philadelphia, on August 21. Close to 100 of "Herb's Friends" attended the luncheon to express their esteem and appreciation, the group representing most of the important firms in the Drug, Chemical and Allied Industries of the country. Several officers and members of the purchasing department of Sharp & Dohme were guests.

The entire luncheon was arranged in the nautical setting aboard the Good Ship, "Friendship" bound for Europe. Dr. Ivor Griffith, honorary member of the Philadelphia Drug Exchange and first recipient of the Procter Medal Award, acted as Skipper and presented Mr. Price with a Memo Book listing the names of the contributors, plus an engraved silver tray, and a check for $3,000 covering "A vacation trip to Europe." A silver tray was also given to Gladys Collins, his secretary.

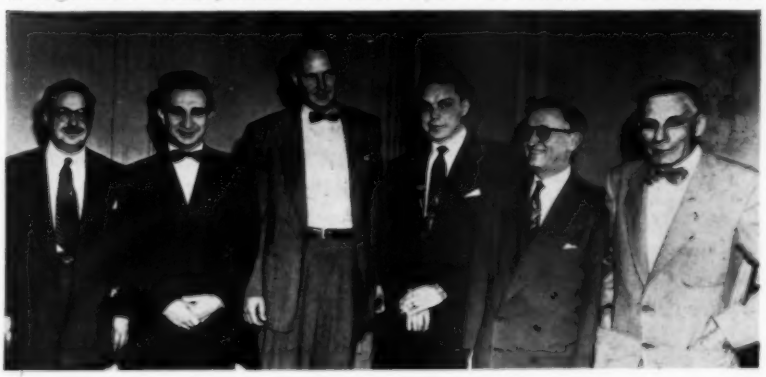
Owing to the fact that the small committee arranging the affair desired to remain anonymous, J. Mervin Rosenberger, secretary of the Philadelphia Drug Exchange, and a close friend of Mr. Price, acted as Chief Purser.

A bouquet of twenty-six roses was given to Mrs. Price with a card reading, "Mindful of your helping hand to the finest guy we know and a wish for real happiness in the future." *Signed* Herb's Friends.

Siers, Armour Sales Manager

Richard S. Siers has been named sales manager of the Armour Laboratories, and Dudley H. Bartlett, his assistant, according to William H. Mathee, marketing director.

Attending Florasynth mid-year divisional sales conference are, left to right, Walter Gallant, southwest district manager; Joseph H. Fein, treasurer; Eliot Friberg, Pacific Coast division manager; Jack N. Friedman, vice-president; David Lakritz, chief chemist and Louis Haznow, Chicago district. Sales problems and related topics were discussed at the conference.



One way to cut process costs: Start with a **Baker** FINE CHEMICAL OF CONTROLLED PURITY

Many far-seeing production men know that it is not the *first* cost of a raw material that counts. It's the *final* cost of *producing* a finished product.

When you start with a fine chemical of uniform quality and high purity, you improve processing, eliminate purification steps, cut production costs.

You can *depend* upon Baker Fine Chemicals to give you trouble-free manufacturing. This is true because of Baker's precise chemical standards, and because Baker is able to supply chemicals with tailor-made characteristics.

Above are shown just a few Baker Fine Chemicals. For a complete list with current prices, simply write to this address: J. T. Baker Chemical Co., *Executive Offices and Plant,* Phillipsburg, New Jersey.

Baker CHEMICAL

Baker Chemicals

REAGENT • FINE • INDUSTRIAL

Lindsey With Pfizer Canada

P. C. Lindsey has joined Pfizer Canada, Ltd. as chemical sales supervisor at the Montreal office. He will handle the company's products in the fields of bulk pharmaceuticals, bulk chemicals and animal feed supplements.

Olson on Chicago MMR Sales Staff

Harold A. Olson has been appointed to the Chicago sales staff of Magnus, Mabee & Reynard, Inc., according to P. C. Magnus, president. He will serve in the midwestern territory under A. R. Jensen, general manager of the Chicago office.

Promoted by Wildroot

Donald J. Atkinson, assistant director of advertising, has been appointed director of market research of the Wildroot Company, and Emanuel G. Gundlach, chief chemist, has become director of technical research. Mr. Atkinson will supervise all phases of market research and testing of new products, while Dr. Gundlach will supervise Wildroot's new chemical research laboratory which has been expanded to five times its former capacity.

These appointments are in line with the company's recent move to expand its research facilities.

DONALD J. ATKINSON

EMANUEL G. GUNDLACH

Joseph Paul Folsom, center, who became general manager of Physician's Desk Reference on June 1, receiving silver cigarette box from Dr. Charles H. Higgins, retired, former director of sales, representing sales section of Lederle Labs. Looking on is Henry Wendt, Jr., present director of sales. Presentation was made at a luncheon in Mr. Folsom's honor. He first began working with Lederle in 1928 under the direction of Dr. Higgins.

Heyden Moves Executive Offices

Heyden Chemical Corp. executive offices, formerly at 393 Seventh Ave., were moved during the first week-end of August to new quarters occupying the entire 16th floor in the Canadian Pacific Building, 342 Madison Ave. The company is also using these new offices for the sales department of its subsidiary, the American Plastics Corp., and for the Heyden Medical Department. This address is now the headquarters for the Heyden Market Development, technicals sales, and advertising departments which were formerly located at Heyden's Garfield, N. J., division. The new telephone number is MUrray Hill 2-7600.

BIMS Get-together

A large gathering of BIMS and their guests met on August 14 at the Dedham Country and Polo Club, Westwood, Mass., where they played golf and enjoyed the swimming pool. After dinner, the following prizes were awarded: golf — Henty C. Milton, American Cyanamid Co.; John O'Meara, Ivers-Lee Co.; C. E. Ingham, Ingham Royalty Luggage; and E. C. Richardson, U. S. Industrial Chemicals, Inc.; and Emery L. Wright. Door prizes—Barclay E. Mackinnon, N. Y. Quinine & Chemical Works, Inc.; Warren Kell, Ungerer & Co.; and Edwin W. Martin, Mallinckrodt Chemical Works, Inc.

Hardie Leaves Bristol-Myers

Joseph P. Hardie, formerly vice-president in charge of sales at Bristol-Myers Co., has joined Sullivan, Staffer, Colwell & Bayles, Inc. as vice-president and account executive.

Appointed by Baxter Labs.

Dr. Fred H. Schultz, formerly of Commercial Solvents Corp., has been appointed head of the department of Physiology-Pharmacology and director of pharmacological research by Baxter Laboratories. Dr. Harry L. Fevold has become head of the department of biological chemistry and director of biochemical research.

The department of organic chemistry is headed by Dr. Leonard G. Ginger, director of organic chemical research. Dr. Myron Usdin has been appointed executive officer of the department of bacteriology. Other recent appointments to the staff of the scientific division are Dr. Arthur Berger and Bernard C. Wexler, responsible investigators in organic chemistry and in physiology, respectively.

Promoted by Arner

J. William Harlow, chief chemist, has been appointed production superintendent of the Canadian plant of the Arner Co., and is taking over from B. L. Leavy, who is relinquishing manufacturing responsibilities to concentrate on sales developments.

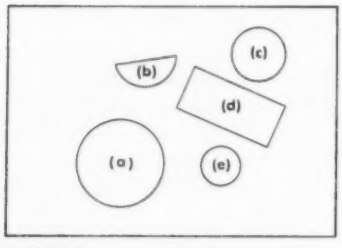
Mr. Harlow will continue as chief chemist and will maintain overall charge of the control laboratory.

Harman, V. P., Pitman-Moore

Charles T. Harman has been promoted to the position of vice-president in charge of pharmaceutical production of Pitman-Moore Co., division of Allied Laboratories, Inc., according to Kenneth F. Valentine, president.

BATES SELLS GOOD GROOMING

in TRI-STATE *Rigid Plastic Boxes*



BATES uses our Stock Boxes

(a) – No. 175 – Diam.: 6" x 1½" deep
(b) – No. 54 – Half Round: 4⅜" x 1" deep
(c) – No. 52 – Diam.: 4¾" x ⅝" deep
(d) – No. 82 – 6⅞" x 3⅛" x 1⅝"
(e) – No. 32 – Diam.: 2¾" x ⅝" deep

For their gay and attractive manicure sets, C. J. Bates & Son, Chester, Conn., choose plastic packaging that provides dust-free protection, eliminates expensive labelling and sealing, and gives the consumer a perfect, practical bonus.

The five transparent Rigid Plastic Boxes shown here — each selected by Bates as a sales-plus for their products — offer a fine sample of the variety and versatility of our stock sizes. And Tri-State's injection molding techniques also make possible an economical and "custom made" answer to any of your packaging problems.

For greater product pride, utility, and point-of-sale appeal: consult Tri-State — catering to the packaging needs of great companies everywhere.

The best Rigid Plastic Boxes are Injection Molded by

TRI-STATE PLASTIC MOLDING CO., Inc.
HENDERSON 4, KENTUCKY

NEW YORK: 12 E. 41st St., MUrray Hill 3-6572 **CHICAGO:** 176 W. Adams St., FRanklin 2-7292 **DETROIT:** 4697 Lakewood, VAlley 2-9761

Webster Retires from SKF

Lloyd H. Webster, manager of foreign operations of Smith, Kline & French Laboratories, and an officer of its foreign subsidiaries, retired last month after 33 years of service. He was assistant secretary and assistant treasurer of Smith, Kline & French International Co., Smith, Kline & French Inter-American Co., and Smith, Kline & French Overseas Co.

Mr. Webster was responsible for much of the beginning of SKF's foreign operations, particularly in the development of the Canadian, British and Central American markets. During a testimonial dinner in his honor, F. M. Rivinus, Jr., president of SKF's foreign subsidiaries, commented on the fine work of Mr. Webster, and Francis Boyer, president of SKF Laboratories, presented him with a resolution from the company's board of directors which expressed its "deep appreciation of his excellent and loyal service to the Laboratories."

Lloyd H. Webster, assistant secretary and assistant treasurer of SKF's foreign subsidiaries, who retired July 31 after 33 years of service, and Mrs. Webster, looking over gifts he received at a testimonial dinner in his honor. At left is Francis Boyer, SKF president, and at right, F. M. Rivinus, Jr., president of the foreign subsidiaries of Smith, Kline & French.

Doney Succeeds Webster at SKF

Robert H. Doney has been appointed foreign operations manager of Smith, Kline & French Inter-American Co., succeeding Lloyd H. Webster, retired. He will be directly responsible for the manufacture and packaging of SKF products in two foreign branch plants and among various manufacturing representatives throughout the world.

Kalech Heads Jamieson Pharmacal

Phil Kalech, formerly senior vice-president and merchandising director of Bymart, Inc., has been appointed president and general manager of the Jamieson Pharmacal Co., according to Henry M. Margolis, chairman of the board. This move is in line with the company's new policy to stress its private brand business.

PHIL KALECH

Dr. Fellows, Visiting Lecturer

Dr. Edwin J. Fellows, director of biological sciences of Smith, Kline & French Laboratories, has been appointed visiting lecturer in Pharmacology and Toxicology by the Board of Regents of the University of Texas for one year beginning the first of this month. He will retain his present position with SKF during the term of his lectureship.

Cottrell Retires, Innis Speiden

H. S. Cottrell, associated with Innis, Speiden & Co., for 31 years, retired September 1. Beginning as a salesman in the Ohio territory in 1921, he was brought to New York the following year as assistant to the late H. G. MacKelcan, vice-president and sales manager. Mr. Cottrell was appointed manager of the company's chemical department in 1935, a post he held until last year when the firm was acquired by International Minerals & Chemical Corp. At that time he was named manager of sales promotion and advertising.

H. S. COTTRELL

Receive Air Conditioning Awards

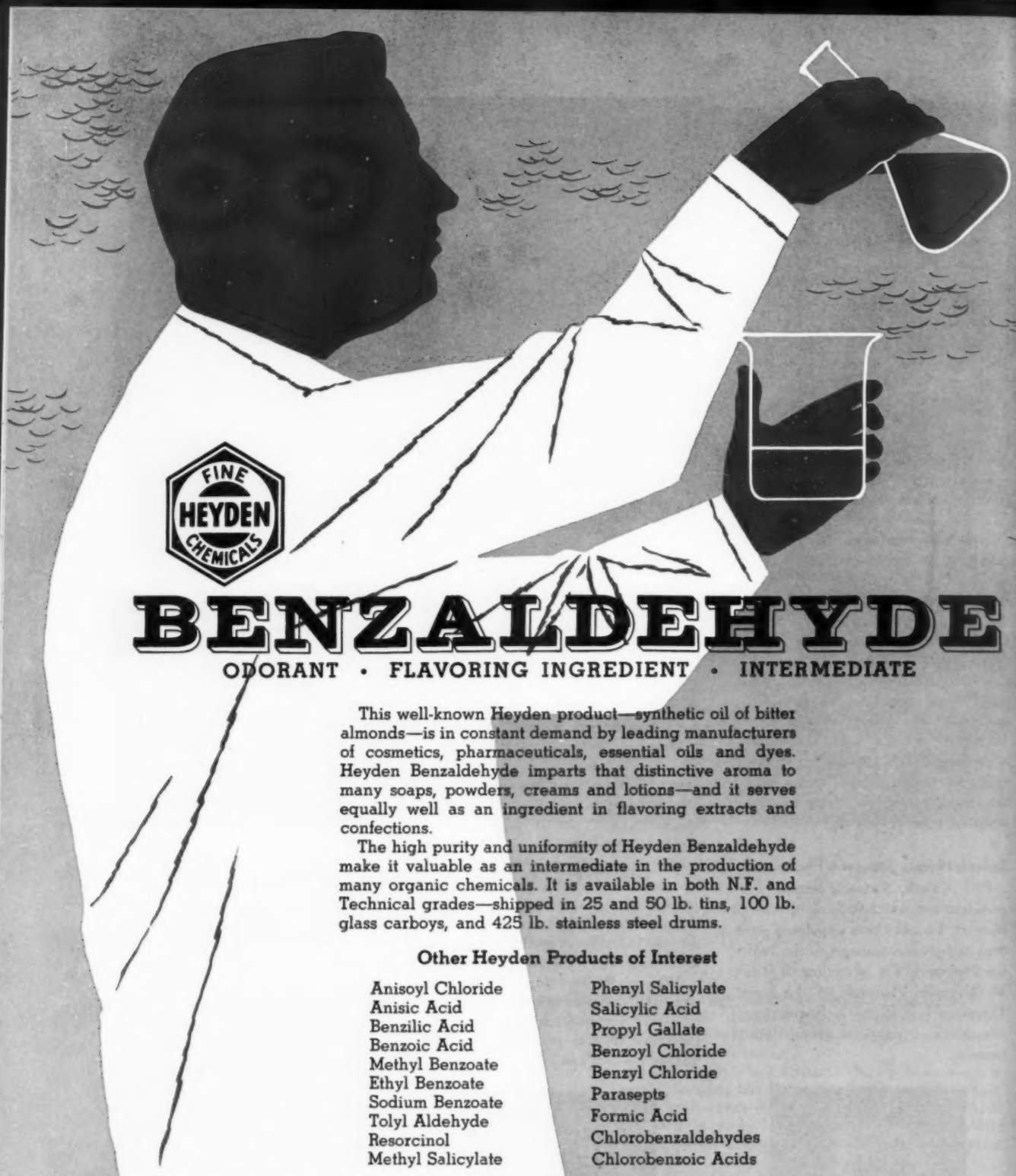
Eli Lilly & Co. and Parke, Davis & Co. were last month named as "Pioneers in Air Conditioning" in awards marking the air conditioning industry's Golden Anniversary. These companies were among 18 pioneer award winners announced by Carrier Corp., which presented the plaques. These two firms, stated Carrier, had installed systems before the air conditioning industry was ten years old. Each system established a new landmark in application of air conditioning to pharmaceutical processing.

Appointed by Reed & Carnick

J. A. Coffman & Son, with offices in San Francisco and Los Angeles, have been appointed distributors for Reed & Carnrick products on the West Coast.

Chemo Puro Developments

Curtis L. Hereld, comptroller of Chemo Puro Mfg. Corp., has been appointed director of pharmaceutical sales and purchases, and S. J. Harrburg, formerly office manager, is now domestic sales coordinator. P. C. Hereld, executive vice-president, stated last month, on completion of the company's 11 business year, that Chemo Puro's sales for the last twelve months were well above the 1½-million-dollar total for the corresponding period in the previous year. The corporation's domestic business is 50 per cent above that of a year ago and represents the largest share of total sales, offsetting a decline in exports to several European as well as Far Eastern countries.



BENZALDEHYDE

ODORANT • FLAVORING INGREDIENT • INTERMEDIATE

This well-known Heyden product—synthetic oil of bitter almonds—is in constant demand by leading manufacturers of cosmetics, pharmaceuticals, essential oils and dyes. Heyden Benzaldehyde imparts that distinctive aroma to many soaps, powders, creams and lotions—and it serves equally well as an ingredient in flavoring extracts and confections.

The high purity and uniformity of Heyden Benzaldehyde make it valuable as an intermediate in the production of many organic chemicals. It is available in both N.F. and Technical grades—shipped in 25 and 50 lb. tins, 100 lb. glass carboys, and 425 lb. stainless steel drums.

Other Heyden Products of Interest

Anisoyl Chloride
Anisic Acid
Benzilic Acid
Benzoic Acid
Methyl Benzoate
Ethyl Benzoate
Sodium Benzoate
Tolyl Aldehyde
Resorcinol
Methyl Salicylate
Phenyl Salicylate
Salicylic Acid
Propyl Gallate
Benzoyl Chloride
Benzyl Chloride
Parasepts
Formic Acid
Chlorobenzaldehydes
Chlorobenzoic Acids

Technical information and samples of Heyden Benzaldehyde—or any of the chemicals listed here—are sent promptly on request.

HEYDEN CHEMICAL CORPORATION

342 Madison Avenue, New York 17, N.Y.

CHICAGO • PHILADELPHIA • SAN FRANCISCO • DETROIT • PROVIDENCE

SERVING INDUSTRY THROUGH FINER CHEMICALS

Benzaldehyde • Benzoates • Benzyl Chloride • Bromides • Chlorinated Aromatics
Creosotes • Formaldehyde • Formic Acid • Glycerophosphates • Guaiacols
Hexamethylenetetramine • Medicinal Colloids • Methylene Disalicylic Acid
Neomycin • Paraformaldehyde • Parahydroxybenzoates • Penicillin • Pentaerythritols
Propyl Gallate • Resorcinol • Salicylates • Salicylic Acid • Streptomycin

Hill Appointed by S & D

Bert L. Hill, products marketing supervisor of Sharp & Dohme, Inc., has been named veterinary products supervisor, according to John G. Bill, vice-president, and succeeds C. E. Greiner who retired July 31. W. F. Woelfle has been named to take Mr. Hill's former position.

W. F. WOELFLE

Fletcher with Bristol-Myers

F. Harry Fletcher has joined Bristol-Myers products division as assistant to Lloyd Bernegger, vice-president and general sales manager. He had formerly been assistant general sales manager of the Whitehall Pharmacal Co.

F. HARRY FLETCHER

Join Wyeth Sales Staff

Twelve men have been appointed to the national sales staff of Wyeth Inc., according to Stuart V. Smith, vice-president, and are, with headquarters, as follows: George Volinn, Boston; Jack R. Dix, Milwaukee; William S. Boyd, Rocky Mount, N. C.; Robert Fiorello, Brooklyn; Francis J. McGuinness, Cleveland; Burt J. Tensmeyer, Ogden, Utah; John Tremaroli, Bronx; William V. Szalay, Athens, Ohio; John J. Redmond, Philadelphia; Richard J. Kehoe, Detroit; Robert E. Brady, Logansport, Ind.; and Richard F. Jewett, Minneapolis.

Packaging Inst. Annual Forum

The 14th annual forum of the Packaging Institute will be held from October 20 to 22 at the Hotel Commodore, New York, according to R. Chester Reed, the Texas Co., chairman of the 15-man program committee charged with preparing the schedule of events.

Feldman Joins Herrick Staff

Dr. Harold S. Feldman has joined the staff of Arthur D. Herrick as medical director assisting in pharmacological and clinical trials, new drug formulation, and the preparation of labeling and medical brochures.

Stevens Heads Golden Rule Labs.

William G. Stevens, one of the founders, and president, of the National Magnesia Co. of Illinois from 1926 to 1947, has returned to the manufacturing of pharmaceuticals and cosmetics after being retired for the past five years. He will operate under the trade name of Golden Rule Laboratories at 5912 N. W. Seventh Ave., Miami, Fla. Emphasis will be stressed on the Latin American market.

Become Plax Sales Managers

Paul Curtis has become sales manager in charge of the squeezable plastic bottle and other blownware products of the Plax Corp., and Wallace J. Hardgrove has been made sales manager for plastic tubing, film and other extruded products, according to Denton Anderson, general sales manager. Both men will be located at the New York offices, International Building, 630 Fifth Ave.

Parenteral Drug Annual Meeting

The Parenteral Drug Association will hold its annual meeting at the Hotel Barbizon-Plaza from October 30 to November 1. Talks and discussions on various production, control and regulatory problems confronting the industry are scheduled for the daily sessions, and an equipment and supplier exhibit is being planned. The annual reception and dinner will be on the evening of October 31. Non-members as well as members are invited to attend the meeting upon registration.

Morrow Promoted by Brockway Glass

Paul R. Morrow has been appointed supervisor of food, pharmaceutical and proprietary divisions of Brockway Glass Co., with headquarters at Brockway, Pa. He had formerly headed the general service functions which will now be handled by Edward C. Faust.

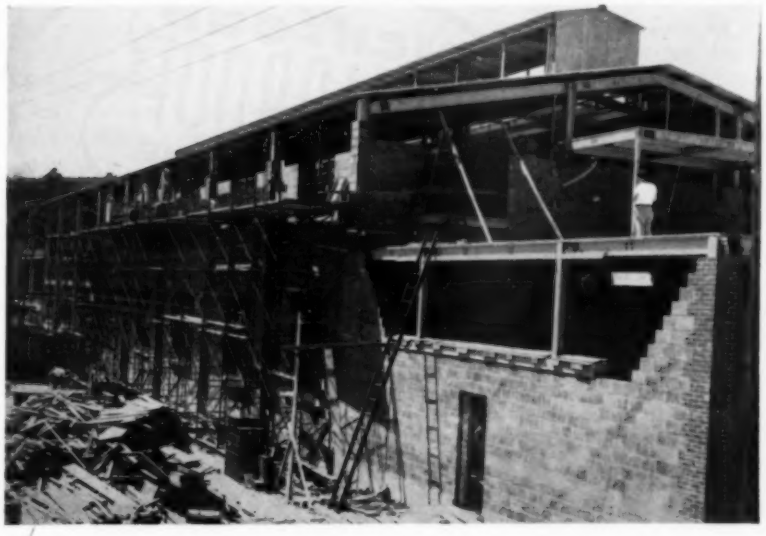
Hooker Appointments

Horace W. Hooker, Jr. has been appointed assistant to the general sales manager, Hooker Electrochemical Co., Peter N. Maclaren as purchasing agent, and Robert F. Schultz as assistant superintendent.

J. T. Baker Expansion

J. T. Baker Chemical Co. is building a $1 million plant in Phillipsburg, N. J. which will more than double the firm's output of reagent quality chemicals. Glass-lined and stainless steel equipment will be used throughout the plant, and a unique fume and dust removal system is being installed for the safety and comfort of the employees.

Early construction stage of J. T. Baker Chemical Co.'s new high-purity inorganic chemical plant which will be completed later this fall. It will more than double the firm's output.

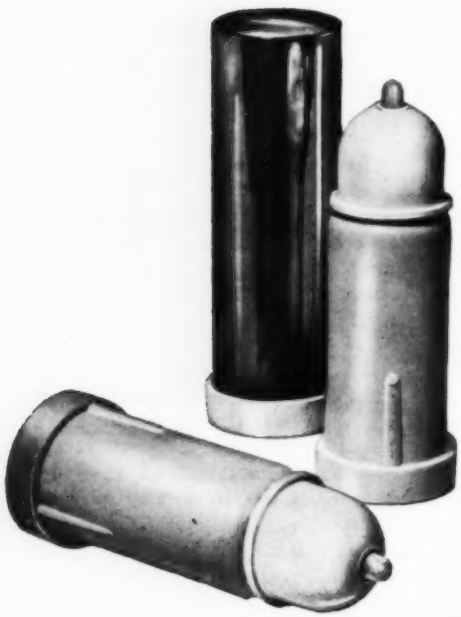


RICHFORD CREATIVELY ENGINEERED CONTAINERS

RICHFORD PUSH-UP*

GOLDEN METAL
PURSE STICK CONTAINER

With the single push-up, push-back seal that permits direct filling without use of molds or foil. In 2 sizes.



RICHFORD TOUCH-N-FLO*

PURSE DISPENSER

The perfect purse container for Lotions, Cream Sachets, Liquid Soaps, Deodorants, etc. Leak-proof plastic bottle with sure-acting dispensers covered with gold metal cap.

RICHFORD SPILLPROOF* PERFUME FLACONS

The magic, purse-sized perfume flacons still making sales history. Available in a number of new style-setting designs.

*Trade Marks

RICHFORD CORPORATION 251 FOURTH AVENUE NEW YORK 10, N. Y.

"Par Busters" Golf Outing

The Par Busters, members of the Chicago Perfumery Soap and Extract Association and the Chicago Drug and Chemical Association, wound up their golf season this month with the fifth and final outing on September 11 at the Calumet Country Club, Homewood, Ill. This year, in addition to the usual prizes which were distributed at the monthly outings, four permanent trophies were donated, one for each of the four classes of golfers—the Scotty Fessenden Memorial Trophy, Michael Francis Charley Trophy, Harry Holland Trophy and the Industrial Laboratories Publishing Company Trophy.

Left to right: Stanley M. Lind and George H. Stanton, president and golf chairman, respectively, of Chicago Drug & Chemical Ass'n, and Robert de Lamar and Charles E. Arch, golf chairman and president of the Chicago Perfumery, Soap & Extract Ass'n, respectively, representing "Par Busters," who held five golf outings during 1952 season.

Berrell on Baker Executive Staff

Warren M. Berrell has been named to direct economic studies of new manufacturing fields for J. T. Baker Chemical Co., according to Dr. Joseph R. Stevens, vice-president and technical director. He had formerly been New York City sales representative for the Pfaudler Co.

WARREN M. BERRELL

Pitman-Moore Expansion

Pitman-Moore division of Allied Laboratories, Inc. is constructing two new buildings as part of its expansion program. A new virus research building is under way on the Pitman-Moore Research Farm, and the other construction, which is believed to be the country's largest installation for the production of desiccated or vacuum dried biological products, is located on the grounds of Pitman-Moore Biological Laboratories.

Patt Heads Schering S. Africa

Arthur M. Patt has been appointed acting manager of Scherag (Pty.) Ltd. of Johannesburg, the associated Schering manufacturing company in South Africa, according to Dr. John McDonnell, vice-president. E. A. Lum, managing director of Scherag, will remain responsible for the company's expanding manufacturing operation.

Upjohn Injunction

The Upjohn Co. recently obtained an injunction against the Diacin Chemical Co., Inc., Harold Stern, operating as Stern Drug Co., and Irving Stern and Blanche Stern, co-partners, operating as Livernois Pharmacy. The Injunction was issued by the Wayne County (Michigan) Circuit Court. The defendants were permanently enjoined from representing or advertising their own or any other brand of products as being equal to, or the same as, certain Upjohn trade-marked products.

The injunction enjoins the defendants from selling, offering for sale, or advertising for sale, products having nonfunctional size, form, color or other distinguishing characteristics of the Upjohn trade-marked products. Substitution of similar products for Upjohn trade-marked items on prescription or over-the counter calls is also prohibited.

Maurice Chevron

Maurice Chevron, pioneer, and one of the best known men in the perfume industry, in France and in European circles, and for very many years associated with Firmenich & Cie., Geneva, passed away on August 9. His numerous friends and acquaintances in all parts of the world have expressed a sincere and deep loss of this man, one of the outstanding figures in the industry.

Elizabeth Ogilvie

Elizabeth M. Ogilvie, 73, one of seven sisters who developed the Ogilvie method of hair and scalp treatments, died August 12 at her home. She had been a partner in the business and manager of its Washington salon before her retirement several years ago.

The business was founded by the late Jessica Ogilvie on a remedy she developed herself for a scalp difficulty. She left the family in San Francisco and went to New York where three of the sisters had preceded her and set up a millinery shop. The treatment was so successful that the three sisters gave up the millinery business to join her. Elizabeth, who stayed in San Francisco to look after their widowed mother, joined the concern later.

Surviving are three sisters, Mrs. Clara O. MacInnis, Mrs. Mabel O. Carter and Mrs. Georgina O. Tweddle, and a brother, William J. Ogilbie.

Emil M. Scher

Emil M. Scher, 63, midwestern district sales manager for the Armour Laboratories, died suddenly in his home. He had been with the laboratories for 33 years, and division sales manager since 1937. He is survived by his wife, Mrs. Estelle Scher; a daughter, Mrs. Virginia Graw; and a brother, Andrew Scher.

James J. O'Shea

James J. O'Shea, vice-president and sales manager of the Alsop Engineering Corp., died August 19, after a brief illness. A pioneer in the field of industrial mixing and agitation, he had been with the company for 18 years. One of his developments was an agitator unit for the electroplating process which was widely used during World War II in the electroplating of bearings for aircraft engines.

Propylene Glycol

Can live with alcohol or leave it alone!

Whether the cosmetic lotion you prepare is non-alcoholic, mildly alcoholic or even strongly alcoholic, propylene glycol, U.S.P., will combine effectively and provide a soothing and softening effect without residual stickiness. Propylene Glycol is used as a carrier, humectant and preservative in many types of cosmetics—yielding a superior product while often replacing a more expensive ingredient. It may well do the same for you. Write for more complete information and facts from Dow, Dept. OC19.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

SEND FOR A *free sample* OF

Propylene Glycol, U.S.P.

THE DOW CHEMICAL COMPANY
Department OC19A • Midland, Michigan

Please send me a FREE experimental sample of Propylene Glycol, U.S.P.

NAME_____ TITLE_____

COMPANY _____

ADDRESS _____

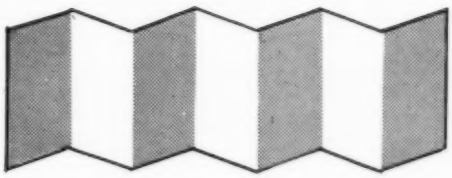
CITY _____ STATE _____

DOW

CHEMICALS

INDISPENSABLE TO INDUSTRY AND AGRICULTURE

Trade Literature



New Stokes Catalog

F. J. Stokes Machine Co., 5500 Tabor Road, Philadelphia, 20, has issued Catalog No. 800, a 24-page booklet describing the complete line of Stokes tabletting presses used for pharmaceutical, powder metal, general industrial, and plastic preform production. Stokes has also issued a 12-page catalog on Complete Vacuum Processing Systems which describes rotary and rotating vacuum dryers, vacuum shelf dryers, freeze-drying equipment, impregnators, extraction and solvent recovery apparatus, and vacuum pumps.

X-Ray in Material Problems

A 4-page folder, X-Ray Techniques Can Help You Solve Your Materials Problems, is available from C. J. Woods, Research & Control Instruments Division, North American Philips Company, 750 So. Fulton Ave., Mount Vernon, N. Y. The folder contains a technical article describing X-ray sectrometry with automatic chart recording as an important tool for solving today's material problems.

Laboratory Furniture

A new 30-page illustrated catalog No. 25 picturing and describing a complete line of laboratory furniture has been issued by Fisher Scientific Co., 717 Forbes St., Pittsburgh 19. The catalog illustrates suggested arrangements and actual installations.

Hose Folder

The Thermoid Company, Trenton, N. J., has issued an 8-page pamphlet describing their new Basic-five, color-coded, multi-purpose industrial base line. The five hose types in the new line replace 18 hose types offered formerly since stocks of many different hose types are no longer required.

Visible Reference Records

Remington Rand, Inc., has issued a folder describing Chaindex, described as the most compact and adaptable of all visible reference records. The booklet, named KD 574, may be obtained from the company at 315 Fourth Ave., New York 10.

Magnetic Traps

A four-page brochure (No. B-203) on Magnetic Pipeline Traps for Sanitary and Standard Applications has been issued by the Eriez Manufacturing Company, Erie, Pa.

Utility Cabinet

Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn, N. Y., has issued a folder describing their new all-purpose No. 4210 Utility Cabinet. An all-steel, electrically welded, counter high unit equipped with two locking drawers and doors behind which there are adjustable shelves.

Givaudan-Delawanna Catalog

Givaudan-Delawanna, Inc., has issued a beautiful spiral-bound, 86-page catalog listing, and giving information as to use of all their various perfuming materials, classified as to type. A section entitled, Answering Your Perfume Problems, gives much technical information of value. Beautifully illustrated, and with much color, this catalog No. 12 may be obtained by addressing the company at 330 W. 42 St., New York 36.

Commercial Solvents Folders

Commercial Solvents Corporation has issued a Technical Data Sheet No. 10, a four-page folder on Handling of Nitroparaffins, as well as a four-page folder listing the products of the company together with their physical properties. These may be obtained from the company at 280 Madison Ave., New York 16.

Packaging Booklet

W. C. Ritchie and Company, 8802 Baltimore Ave., Chicago, has issued a 16-page booklet described as "a solid, shirt-sleeve approach to package design." As an example, one section breaks down and categorizes the decisions a manufacturer must make when contemplating a new package, or the re-design of an existing one. These considerations are divided into what, who-where, why and how headings. Another section gives suggestions for display, ability, stackability, creating multiple sales, packaging responsibilities, re-use package, and multiple purpose packages.

Packaging Film Tests

Five new Proposed Testing Procedures for evaluating the packaging properties of plastic films are being distributed by the Packaging Institute, 342 Madison Ave., New York 17. Available to non-members at 25 cents each, the titles and index numbers follow:

"Conditioning Films and Foils for Testing", PI Films & Foils lp 51.

"Testing Folding Endurance of Films and Foils", PI Films & Foils, 2p-51

"Testing Internal Tearing Resistance of Films and Foils", PI Films & Foils 3p-51.

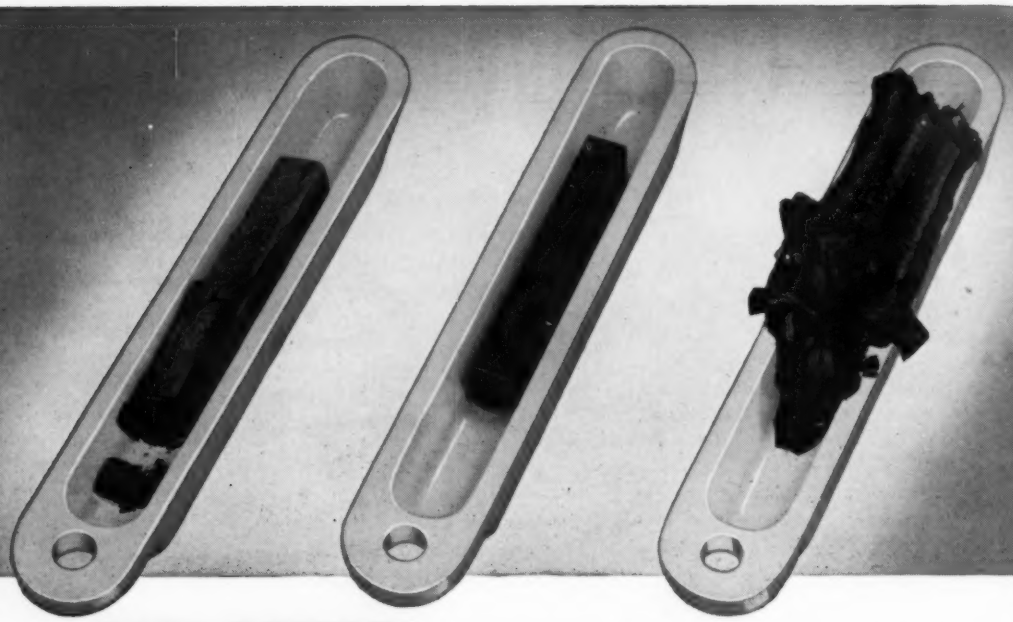
"Testing Accelerated Aging of Films and Foils", PI Films & Foils 4p-51.

"Testing Blocking of Plastic Films and Sheets", PI Films & Foils 5p-51.

Emulsion Bulletin

Technical Bulletin No. 32 describing Emcol 61, a fatty amide foam stabilizer and hair conditioning agent for shampoos and other detergent products is available from the Emulsol Corporation, 59 E. Madison St., Chicago 3.

NOW...New Carboloy
for resistance to corrosion,



TEST RESULTS

1 **Oxidation resistance.** (Above, left to right.) Samples of 18-8 stainless steel. Grade 608 Chrome Carbide and tungsten carbide after exposure in air at 1850° F. for 24 hours. All were originally identical in shape and size. Grade 608 Chrome Carbide appears to be virtually completely resistant to oxidation at all temperatures up to 1000°C. (1832°F.). Samples subjected to 1850°F. were only slightly discolored.

2 **Salt spray.** After subjection to a 30% salt spray for 750 hours, Grade 608 still retained its metallic lustre.

3 **Sulphuric acid.** With sulphuric acid as the corrosive agent, Grade 608 showed about 30 times the resistance of 18-8 stainless steel, and 3 times the resistance of tungsten.

4 **Nitric acid.** Using nitric acid, the resistance to corrosion was approximately 8 times that of other carbides and twice that of stainless steel.

5 **Steam erosion.** Tests indicate a resistance to steam erosion approximately 60 times that of conventional carbides.

6 **Lactic or citric acid.** Grade 608 was practically inert under all conditions when exposed to lactic or citric acid.

PROPERTIES OF GRADE 608

The outstanding properties of Grade 608 Cemented Chrome Carbide promise to open new cost-saving applications throughout industry. You may wish to expedite your initial test appraisals by starting with the test kit (above coupon) now pending larger quantities or supplies as production facilities expand.

PHYSICAL PROPERTIES

(Grade 608)

Composition: 83% Cr_3C_2
2% WC
15% Ni

Hardness (Nominal): 88 Rockwell "A"

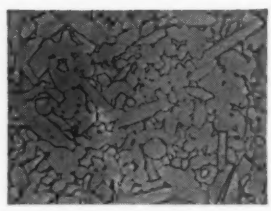
Density (Nominal): 7.0 gms/cm³ (Slightly lighter than S.A.E. 1095 steel)

Transverse Rupture Strength: 100,000 P.S.I.

Coefficient of Thermal Expansion: 6.4 x 10^{-6} in range of 70°—1292°F.

Relative Abrasive Resistance: Dry Al Oxide—58.0

GAGE ANVILS currently being made of Grade 608 Chrome Carbide. In gage blocks, ring gages, plug gages and gage anvils. Chrome Carbide has already shown an outstanding ability to resist corrosion and abrasion. Since its coefficient of thermal expansion is about the same as that of steel, readings are not affected by temperature variations.



MICROSTRUCTURE of Carboloy Grade 603 Chrome Carbide shows appearance unlike any other metal. Note, particularly, the uniformity and interlocking character of the grain structure. Chrome Carbide is lighter in weight than tungsten carbide; facilitates handling and use of solid carbide. It will pay to start your laboratory tests on Chrome Carbides now.

Chrome Carbide
abrasion, erosion

Grade 608 Carboloy Cemented Chrome Carbide, with chromium as principal ingredient, gives high resistance to corrosion or erosion, combined with good abrasion resistance. Lightweight, nonmagnetic, machineable, stable and strong, Grade 608 opens to you new areas for carbide benefits in industrial and product applications. Sample test quantities now available at nominal cost. Production quantities soon.

NOW, another great Carboloy created-metal makes its bow . . . Carboloy Grade 608 Cemented Chrome Carbide, first in an entirely new series of metallic carbides.

Grade 608 Chrome Carbide contains chromium as the principal ingredient. It is cobalt-free and practically tungsten-free. It features high resistance to corrosion or erosion, combined with good abrasion resistance.

Field tests already point up exciting new areas where Chrome Carbide will bring new cuts in costs, new highs in performance. Undoubtedly, *your* field, *your* product may benefit, too. Send for test kit to start your preliminary metallurgical and chemical test of Grade 608 today.

An expansion of carbides

Grade 608 Chrome Carbide is light in weight, completely nonmagnetic and has a coefficient of thermal expansion about the same as that of steel. It is machineable and as hard as tungsten carbide. It is stable and strong.

Fabricating and finishing techniques are the same as tungsten carbides. A flash plating of nickel makes Chrome Carbide blanks (as sintered or as ground) readily brazable with conventional brazing materials.

Series 600 may overlap a few tungsten carbide applications. But because of their unusual wearproofing properties, their wear- and corrosion-resistance, look to Chrome Carbides for famous carbide benefits to you in many new areas of industrial and product applications. Here may be new opportunities for you, starting with Grade 608.

CARBOLOY
DEPARTMENT OF GENERAL ELECTRIC COMPANY
Detroit 32, Michigan

"Carboloy" is the trademark for the products of Carboloy Department of General Electric Company

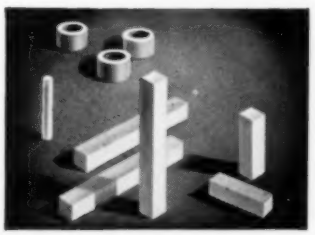
WHERE CAN YOU USE GRADE 608 CHROME CARBIDE?

Field tests indicate new Grade 608 Chrome Carbide offers unusually high resistance to corrosion or erosion combined with good abrasion resistance. For example, the following applications are suggested:

- Sheer blades for molten glass
- Core pins for baking ceramic parts
- Fishing rod guides
- Centrifuge nozzles, separating equipment
- Bearings where corrosives are present
- Textile guides
- Nozzles and valves: soaps, fats, oils, foods, chemicals, petroleum products, pharmaceuticals, fruit juices
- Valve and core pins, die casting
- Punches for movie film
- For many applications where stainless steel is not sufficiently abrasion-resistant

Where else can you use Grade 608 Chrome Carbide?

9-piece Test Kit $10.75



INCLUDES: Three bars ¼" square x 2"; two bars ¼" square x 1"; three bushings 5/16" long, ½" O.D., 5/16" I.D.; one rod ⅛" diameter x 1" long. (Bulletin WR-104 included.) Samples adequate for wide range of tests. Information relative to your particular application free, on request from Carboloy engineers. Send coupon below today for test kit.

CARBOLOY Department of General Electric Company
11161 East 8 Mile Blvd., Detroit 32, Michigan

Please send free copy of Technical Bulletin WR-104 only.

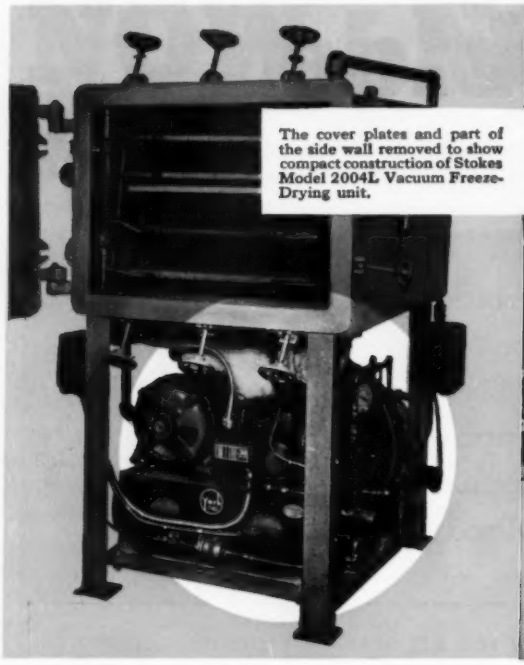
Please send ( ) test kits of Grade 608 Carboloy Cemented Chrome Carbide at $10.75 each. Technical Bulletin included.

Enclosed is ☐ Check ☐ Money Order ☐ Purchase Order for $_____
☐ Please invoice us.

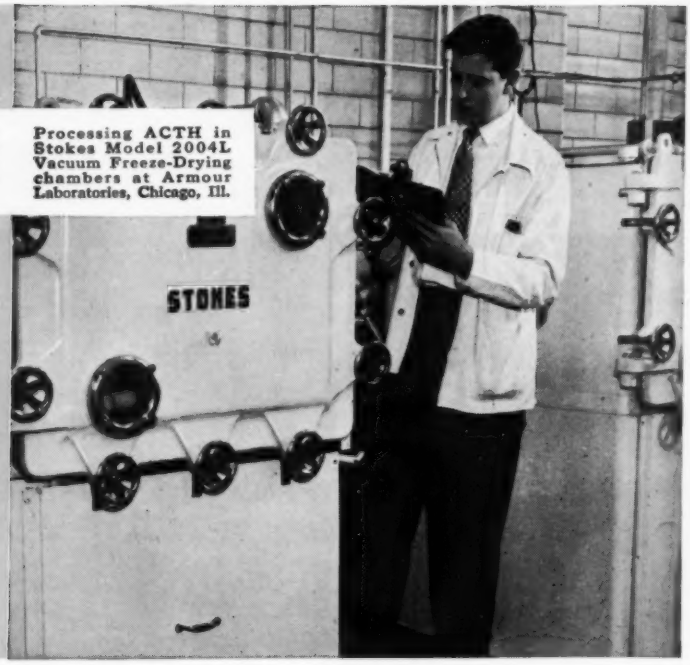
Send to_____ Title_____

Name of Company_____

Address_____ City & Zone_____ State_____



The cover plates and part of the side wall removed to show compact construction of Stokes Model 2004L Vacuum Freeze-Drying unit.



Processing ACTH in Stokes Model 2004L Vacuum Freeze-Drying chambers at Armour Laboratories, Chicago, Ill.

A ready-to-use vacuum freeze-drying installation

Connect the vacuum pump and the hot water line and the Stokes Model 2004L freeze-drying unit is ready for work!

This entire vacuum freeze-drying unit is completely assembled and tested at the factory . . . then shipped to you ready for use.

This model is used for the preparation of serum, blood plasma, antibiotics, antitoxins, guinea pig complement, viruses, vaccines, injectable vitamins, hormones, breast milk, enzymes, veterinary biologicals, bacteria and other micro-organisms.

The compact self-contained Model 2004L with Freon refrigeration combines the efficiency of a large vacuum freeze-drying unit with the flexibility and economy of a small unit. All operating equipment is mounted beneath the drying chamber. The unit is ideally adapted for laboratory use or moderate production requirements.

Drying capacity is 10 liters per day—20 liters total—equivalent to 1000 containers of 10 cc daily or 66 containers of 300 cc every two days.

Send for catalog showing Stokes Model 2004L and other Vacuum Freeze-Drying equipment.

STOKES

STOKES MAKES

Plastics Molding Presses,
Industrial Tabletting
and Powder Metal Presses,
Pharmaceutical Equipment,
Vacuum Processing Equipment,
High Vacuum Pumps and Gages,
Special Machinery

F. J. STOKES MACHINE COMPANY, 5532 TABOR ROAD, PHILADELPHIA 20, PA.

Management Forum

by Francis Chilson

INDUSTRIAL CONSULTANT

The Versator

One of the most versatile processing machines I have ever encountered is the Versator made by the Cornell Machine Company, 99 Wall Street, New York 5, N. Y. This machine was developed in the petroleum industry for the continuous and batch production of mixed greases. It will handle any material that will flow, from light liquids and suspensions up to fairly heavy greases, creams or pastes. Moreover, the machine is so designed that material being processed can be treated hot or cold, under vacuum or under pressure. This equipment is now being used in a number of industries in connection with the following processes: Emulsification and homogenization, dehydration and dispersion, distillation, irradiation, de-aeration and, conversely, gassification. It also has been used as a continuous mixer for a variety of chemical reactions.

The Versator is basically a simple machine in construction and operating principle. There are two types, the vertical and the horizontal. Both machines consist of a vacuum or pressure chamber mounted on a base. Within the chamber there is a 26-inch diameter disc in the form of an open bowl. This disc may be driven at speeds varying from 900 r.p.m. to 2000 r.p.m.

The material being processed enters the unit through the 2½" feed connection and is impounded at the center of the rapidly spinning disc by either a fixed or a spring-loaded film-forming ring which can be pre-set to determine the initial thickness of the entering film, if pressure and rate of flow are held constant. In general, the film formed around the center of the disc is held to an initial thickness of a small fraction of an inch.

Thus when a given increment of the mass to be processed is initially fed onto the spinning disc, the following effects occur: centrifugal force drives the mass away from the center of the disc. The surface of the entering mass is rapidly increased, becoming an expanding film with correspondingly decreased thickness, and the entire mass approaches the characteristics of a two-dimensional surface. The wetting or adherence of the mass to the surface of the disc, the curved path, gravity, viscosity, cohesion, surface tension, and centrifugal force subject the mass and all its components to forces of successively varying intensity.

Turbulent flow results, which, combined with the shape, area, and speed of the disc develops: (a) tremendous shear forces as the foregoing actions take place in a fraction of a second; (b) remarkably effective dispersing and homogenizing action; and (c) extremely rapid and multiple positioning of the particles of the mass on the top surface of the film.

As these effects can be coupled with operations in vacuo, under pressure, with pre-heated or pre-cooled material fed into the machine, a wide range of production possibilities becomes available. Unit or multiple processes for a particular product may be developed such as:

MIXING AND BLENDING: The mixing and blending of lubricating oils and additives, even up to six components, is standard practice using Cornell processing equipment in the petroleum industry. In addition to the remarkable quantitative control of components using Cornell proportioning equipment, extremely accurate operating control is obtained wherein additives amounting to only 15/100 of 1 per cent are used. Thus, in addition to economical large scale production with extremely high quality control, an appreciable saving in the additives required is obtained due to the perfect dispersion.

DEHYDRATION: The Versator is valuable in the dehydration of heat sensitive materials under vacuum. Such materials can be partially dehydrated or reduced to the anhydrous state as desired. Normally the "wet" feed is heated before being fed to the Versator and its sensible heat utilized for providing the latent heat of evaporation. Time of exposure more often than the degree of temperature determines whether or not heat sensitive materials are damaged by heat. Hence, by passing the material through a pre-heater, then feeding directly into the Versator where flash evaporation

The Most Efficient Method of Air Cleaning New Containers

Positive Cleaning Action at all Speeds

Here is a machine that gives you: Complete Automatic Operation; Automatic Controls; Variable Speed Control with a 2 to 1 Ratio; Unbeatable Cleaning Performance and a speedy Changeover from any container size to another, including AGST and wide mouth finishes. These features together with exclusive U. S. engineering innovations have given the Sanitair Automatic Air Bottle Cleaner world-wide popularity.

What you cannot see in the illustration is most important to you. The Sanitair Bulletin shows in detail the automatic machine operation; it illustrates the exclusive double action cleaning which you will want; the advanced type worm feed and the amazing new friction drive clutch that eases mechanical strain to unprecedented smoothness. You will particularly like the "plus" factor of long-life ruggedness in construction. Send at once for complete details; ask for the "Sanitair Bulletin."

US

Sanitair
AUTOMATIC
AIR BOTTLE
CLEANER

Synchronizes Into Production Lines

U. S. BOTTLERS MACHINERY COMPANY

4013 N. ROCKWELL STREET • CHICAGO 18, ILLINOIS

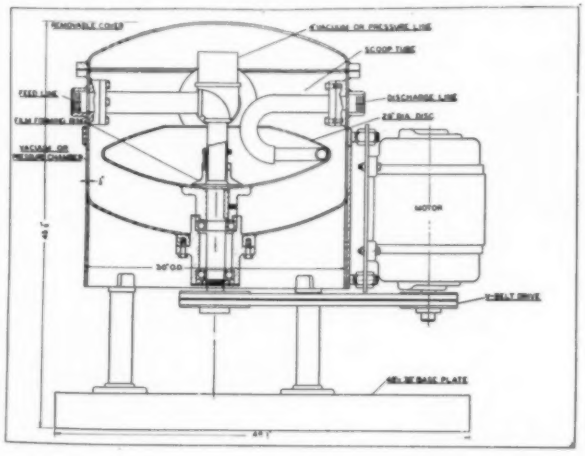
OFFICES: Boston • New York • Philadelphia • Houston • Dallas • San Francisco • Los Angeles • Denver • Seattle • Portland • Phoenix • New Orleans • Tampa • Atlanta Montreal • Toronto • Vancouver • Winnipeg • EXPORT OFFICE: Toledo, Ohio

promptly cools it, it may become possible to heat quite delicate materials considerably above what is normally regarded as a damaging temperature, without harm. Where this is not possible, the material should be pre-heated to some lower temperature which means, that re-cycling becomes necessary.

DISTILLATION: For materials which cannot be properly or economically distilled or stripped of residuals in conventional equipment the Versator offers a practicable and efficient possibility for solving such problems. Heating of the feed may be accomplished by utilizing a pre-heater in the manner described in the preceding paragraph. The turbulent films provide high transfer coefficients and permit distillation of sensitive materials since the distillant is in contact with the disc for only a fraction of a second. Moreover, since distillation takes place from the "all-surface" film under vacuum, this evolution of volatiles keeps the distillant relatively cool so that it leaves the Versator with only a slight increase in temperature over the theoretical drop.

DE-GASSIFICATION AND GASSIFICATION: When the chamber is operated under vacuum, any material passed through the Versator is promptly de-aerated or de-gassed since the vacuum and internal pressures in the turbulent mass combine to effect removal of gaseous constituents. De-gassing liquids in bulk is so inefficient and time-consuming that in many cases no attempt is made to de-gas. With the Versator, it now becomes possible to secure highly profitable results by de-gassing many products to secure better keeping qualities, lowered viscosities, better color and, in general, over-all improvement in physical characteristics.

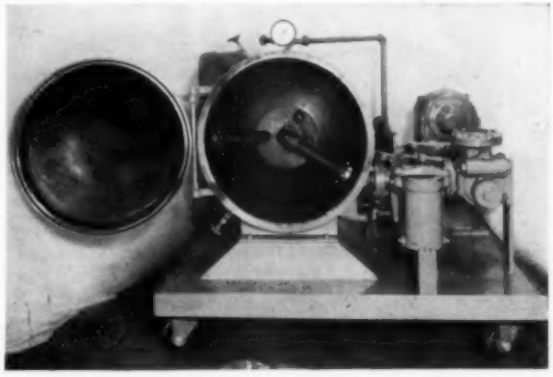
Food products, pharmaceuticals, cosmetic creams, tooth paste, etc., respond favorably to de-aeration.



This operation is economical and may be a very profitable one; enhancing value and customer acceptance by improved appearance and keeping qualities.

Another closely allied operation can be performed in the Versator: If the material being processed is moderately viscous or has high surface tension, for instance oils, shaving cream, mayonnaise, or latex, it can be "fluffed-up" with air, carbon dioxide or other gases. Here the chamber is likewise operated under a positive gas pressure, thus providing for maximum gas absorption. By regulating gas pressure, through-put rates, and the speed of the disc, bubble size and final volume of the aerated material are controllable.

HOMOGENIZATION AND EMULSIFICATION (DISPERSION): The Versator is a superior tool for dispersing liquids in liquids, certain solids in liquids, gases in liquids, and flowable pastes. The limit of effec-



tiveness is governed generally by the flowability of the components (liquids and semi-liquids) and in the case of gas absorption those mechanical and equilibria factors which normally govern such processes noting that absorption is increased as surface velocity is increased.

As typical examples of emulsification, water and crude oil make a "tight" emulsion without a stabilizer and in blending lubricating oils the chamber must be under vacuum else air will be entrained and dispersed to produce a non-edible "mayonnaise".

Paints, pastes, coating and similar products consisting of one or more finely divided solids dispersed in one or more liquids may be effectively and economically processed where the crux of the problem is to remove entrained or absorbed air and moisture from the solid particles, so the liquid can properly wet them. The Versator is not offered as an economical mill for breaking down particle sizes or hard aggregates unless such particles or aggregates are readily friable.

IRRADIATION: Irradiation of fluids by ultraviolet is generally handicapped by the ray's lack of penetrative power. The turbulent microfilm presented by the Versator may eliminate this difficulty and deserves consideration.

REACTIONS AND DIFFUSIONAL PROCESSES: When it is desirable to combine gases such as oxygen, hydrogen, chlorine, carbon dioxide, etc. with a liquid, the material to be gased is fed through the Versator and the gas is introduced into and held in the chamber under pressure. As the material moves over the disc, each particle in the highly turbulent "all-surface" film is intimately exposed to the gas, consequently high speed gas absorption is obtainable. Temperature control vital to reaction efficiency may be simplified as the material fed to the machine is in and out in a fraction of a second.

LABELING *Without Glue!*

up to 150/m
and
NO CHANGE PARTS

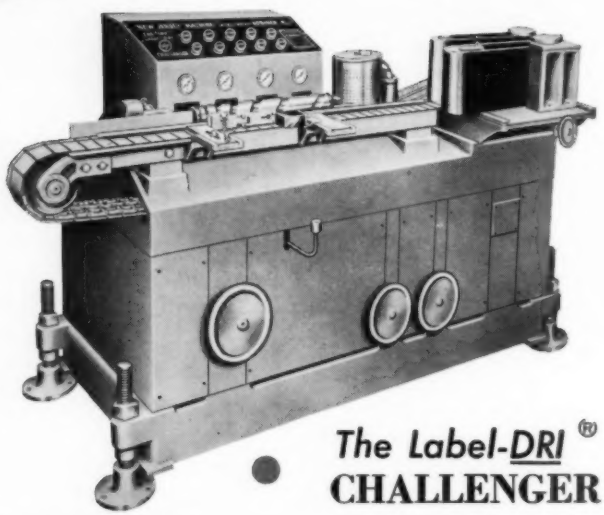
Get a full
8-HOURS of
production
EVERY DAY!

No downtime
for glue preparation,
maintenance,
and daily clean-up . . .

2-INCH DIAMETER

2½-INCH DIAMETER

3-INCH DIAMETER



You pay no more for this sustained performance than for ordinary high-speed labeling machines—*and,* because *you use no glue,* you totally eliminate frequent stoppage. The CHALLENGER is ALL production time!

The adhesive is right on your label, activated by heat as the label is applied. This is *modern,* carefree, foolproof, *Push-Button* Labeling!

912 ***Be sure to write for details —***

The Label-DRI®
CHALLENGER

NEW JERSEY MACHINE *Corporation*

AUTOMATIC LABELING • PACKAGING — PAPER BOX MACHINERY • MAKERS OF THE PONY LABELRITE

FACTORY SALES AND SERVICE BRANCHES
325 W. HURON ST., CHICAGO 10, ILL.
1701 CAREW TOWER, CINCINNATI 2, OHIO
2500 W. 6TH ST., LOS ANGELES 5, CAL.

MAIN OFFICE & FACTORY: 1550 WILLOW AVENUE, HOBOKEN, N. J.

PATENTS: The Versator and its use are covered by patents, the enjoyment of which are included by agreement in the purchase or lease.

TYPICAL RESULTS — "MULTIPLE OPERATIONS": Dispersion with simultaneous dehydration and de-aeration:—

Resin in hot gum, removal of 2 per cent residual moisture
Hot greases (soaps in lubricating oils)
Dispersion with simultaneous de-aeration:
Resin-oil-plasticizer formulations (elastomers)
Certain resins in certain plasticizers (plasticols)
Ointment formulation
Emulsification with simultaneous de-aeration:
Latex and components

"UNIT OPERATIONS"—DE-AERATION:

Printing Ink
Tooth Paste
Peanut Butter
Reclaimed rubber dispersion
Detergent formulations
Metallic soaps

De-aeration or dehydration are effected by applying vacuum to the chamber. Where these results are not desired the Versator is run with the chamber at or just slightly below atmospheric pressure.

Rates of flow range from 5 to 90 gallons per minute depending upon the viscosity of the material as processed and the density. Equal results for particular products are usually over a wide rate of feed at a set speed. This permits the grease maker, for example, to process from 50 to 200 pounds per minute or blend oils from 10 to 90 gallons per minute with constant quality.

ECONOMIES: Power requirements are relatively low —approximating 7½h.p. to 20 h.p. at 1800 r.p.m. respectively for a production range of 7½ to 75 gallons per minute. Auxiliaries such as feed and vacuum pumps may require 3 to 7½ h.p. in addition.

MATERIALS OF CONSTRUCTION — STANDARD:

1. Carbon Steel.
2. Semi-stainless—the disc-hub-shaft, internal feed and internal discharge assemblies are stainless.
3. Stainless—the entire chamber with disc-hub-shaft, internal feed and internal discharge assemblies are stainless.

Other metals will be considered and if suitable a proposal will be prepared.

CLEANING: A study of the design shows how easy it is to clean. Special hand holes and drainage connections are readily installed during fabrication and construction.

MAINTENANCE: Parts subject to wear are few, simple, readily replaced and inexpensive.

The Versator In Your Plant

This article is intended to indicate the possible flexibility and economy which may be applicable to your processes and products. This is a remarkable machine.

It is recognized that test runs to develop optimum production and control for quality products require time and technical study. For such problems the Cornell Machine Company is prepared to lease one or more units embodying such mechanical modifications of materials, design, and construction deemed best suited to these problems. The marked advantages of this procedure are:

1. That the tests may be made on surprisingly small batches to determine rate of processing for acceptable quality standards and establish proper operating procedures.

2. As the same unit may be thrown promptly into full scale production, the loss of time (overhead cost) and delay in serving a competitive market by pilot plant design and operation is avoided.

You may without cost or obligation on your part send a description of your problems along with proper data for analysis and recommendation to the Cornell Machine Company, 99 Wall Street, New York 5, N. Y.

Mention the Drug and Cosmetic Industry in your letter.

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

Sampling by Pneumatic Tube

Ample floor area was one of the basic architectural requirements of a new plant built by the Upjohn Company of Kalamazoo, Mich., but it brought with it a major problem—that of transmitting test samples and work orders.

Located outside the city limits, the 23-acre plant has 33 acres of floor space. A fast, flexible pneumatic tube conveying system installed by Lamson Corporation of Syracuse, N. Y. was the solution to the safe transmission of: test samples of ingredients, formuli in process, production cards, IBM punched cards, shipping orders, and requisitions. Application of the pneumatic tube conveying system was a result of a company policy of specifying processing and control machinery to improve the product and speed its manufacture.

Upjohn engineers made a study of all procedures, all types of machinery and equipment, as well as improved methods pertaining to manufacturing and office operations. One of the most important phases of the operation is product control, particularly in regard to biological and chemical laboratory analyses of ingredients and test throughout processing for quality and formulae control. Pneumatic dispatch tubes are always ready and samples can be dispatched immediately—there is never a delay waiting for messenger service. Test samples of any type—powder, liquids, soft capsules, tablets, are safely speeded to the laboratory in seconds and reports returned at the same speed.

The tube system comprises 21 separate stations or

One of a number of our bundling machines in plant of Vick Chemical Co., Philadelphia, Pa.

Cut Costs sharply

WITH MACHINE BUNDLING

A steadily growing number of manufacturers are adopting this modern way of packing their products. It is very likely that machine bundling would be suited to your requirements, too.

Machine bundling replaces costly cardboard boxes with strong, economical wrapping paper in roll form. This results in an immediate saving of as much as 60% on material costs alone. Then there is a saving in labor—for one bundling machine will assemble and wrap your cartons at a speed of up to 24 bundles a minute. You also save on shipping costs, because paper weighs so much less than cardboard.

The bundling machine can be fed directly from the cartoning or wrapping machines. It is adjustable for different sizes, and you can bundle a dozen, half dozen or any quantity within its size range. If you wish, you may use printed wrapping material accurately registered by electric eye.

LET US DEMONSTRATE

We'll be glad to show you how one of our machines would bundle your cartons—and how much it would lower your costs.

Write or phone our nearest office

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA
DALLAS DENVER LOS ANGELES SAN FRANCISCO SEATTLE
VANCOUVER, WASH. TORONTO MEXICO, D.F.

Bundled on "PACKAGE" machines

PACKAGE
MACHINERY COMPANY
WRAPPING DIVISION
SPRINGFIELD, MASSACHUSETTS

connections of 4 in. diameter size terminating at a central point in order to provide rapid service between any one department and all others. In addition, two departments adjacent to the central area are served directly and there are two direct lines between departments where there is a heavy flow of written forms that pass between them. This network of tubes with convenient and attractive terminals provides a communications system that is essential to the operations of this aggressive and efficient manufacturer of pharmaceuticals.

Carriers speed their contents (test samples or papers) through the system at the rate of 25 to 30 ft. per second with never a delay in processing due to late delivery of a test sample or report. Mail and all types of processing papers reach their destination with none of the problems of batch delivery.

Conveyor System Empties Drums

The Gifford-Wood Co., Hudson, N. Y., announces a newly designed, fully-automatic conveyor system for emptying up to 40 drums per hour. The totally-enclosed drum-emptying system eliminates manual lifting, cuts work-hours, provides dust-free emptying and washes emptied drums. Three chemical plants are now using this equipment and other processing plants may easily adapt it to their operations—plants in the food, rubber, brewing, drug, cosmetics, grain, feed, fertilizer, petroleum, paint, plastics, and other industries.

The system comprises four principal units: (1) a totally enclosed automatic skip hoist, (2) a transfer conveyor, (3) an automatic drum washer, and (4) a lowerator.

In operation, a roller conveyor brings drums to the skip-hoist enclosure, an air operated door automatically opens, and a drum is pushed in and onto an elevating carriage by an air operated pusher. As the door closes, clamps on the carriage grasp the drum (either 30 or 50 gallon size) and the hoist elevates and up-ends the drum, emptying its contents through a grating into a receiving hopper. The drum is then released from the clamps and drops onto the grating which is electrically vibrated to dislodge any material still in the drum.

Bottle Bander

A new machine which applies cellulose bands to bottle necks automatically has been added to American Machine and Foundry Company's product line, it was announced today by Morehead Patterson, AMF board chairman and president.

Known as the AMF Automatic Bander, the machine will make possible considerable production cost savings where bottles are sealed with cellulose bands, speeding up a process heretofore done by hand. It will be manufactured in AMF's Buffalo plant.

Marketing of the machine represents the entry o American Machine and Foundry Company into a new field. The Bander's original development was undertaken by the "Cel-O-Seal" Sales Section of the Du Pont Company's Film Department to aid the packaging methods of industries using cellulose bands as bottle seals by mechanizing the process.

A continuously operating turret-type machine, the AMF Automatic Bander can apply wet cellulose bands to bottle necks at speeds ranging from 50 to 140 bottles a minute. Its speed is governed by that of a bottling plant's over-all production line. Employing mechanical and vacuum principles, the Bander is capable of handling round, flat or square bottles. One operator is required to keep the Bander's eight station hoppers constantly supplied with seals.

The cellulose band discourages tampering with the bottle and protects the tax stamp where one is required. Since Federal law directs that the tax stamp number be visible, the seal may be manufactured with side windows or completely transparent. The distiller's trade name may also be printed on it.

The AMF Automatic Bander is capable of handling bands up to 70 millimeters long. It is adjustable to height for any size bottle from a half-pint to a quart.

Colton Exhibit At Chemical Exposition

Three brand new products of the Arthur Colton Company were displayed for the first time at the Chemical Exposition in Chicago from September 9 to 13.

The new Colton No. 241 Twin High Speed Rotary Tablet Press for pharmaceutical Tableting will produce

over one and one-quarter million tablets per average working day. This is far in excess of the average production on equipment in use today. This high rate of production allows rapid amortization of the equipment which is sturdily constructed with special features designed to give long life to the unit.

The New No. 30 Colton Tablet Dusting Device was also displayed. This compact unit can be used on the pedestal of any tablet press and will dust on both sides of the entire tablet production of the highest speed rotary machines. Complete dusting is assured since the tablet is turned over several times during the dusting operation.

The Colton Model 160 is also a new Filling, Closing, and Crimping unit. It is used for filling, closing and crimping of collapsible metal tubes. Jars and bottles, etc., can also be filled. It will fill materials ranging from light fluids through heavy viscous paste materials. One

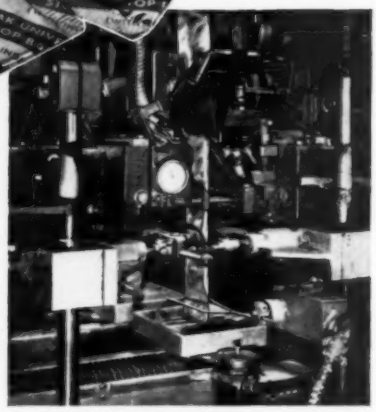
making packets for famed Eastman Kodak Co.

Universal Stop Bath is one of a trio of Kodak processing powders that "team up" to help make it easy for amateur photographers to be dark room experts.

Aluminum foil packets of this photographic chemical are formed, filled and heat sealed . . . at speeds up to 200 per minute . . . on Pneumatic's Packet Maker. This amazing machine is duplex in action, permitting two different products to be run simultaneously, and may be equipped for registered cut-off on printed messages. It was first designed for tea bag production, then found practical for putting up individual servings of sugar, spices and pharmaceuticals. Now, it's "in pictures" . . . and its performance is as sure-fire as Kodak products themselves.

The Heat-Seal Packet Maker is only one of many Pneumatic machines in daily use by America's leading producers of packaged and bottled goods. See Pneumatic *first* . . . because Pneumatic *is* first in its field.

PNEUMATIC SCALE CORP., LTD., 70 Newport Avenue, Quincy 71, Mass.
Also: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.



Two views of a Pneumatic Heat-Seal Packet Maker in operation at Eastman Kodak Company's Kodak Park plant in Rochester, New York

★PNEUMATIC *Packaging and Bottling Equipment*

operator attending this machine can fill 35 tubes per minute which being of semi-automatic nature, takes its place in the medium priced section of the complete Colton line of fillers. Heavy construction assures accurate filling of unusually heavy materials and tubes as well as long and trouble free operation. The filling head is the same tried and proven filler unit which has been used over a long period of time on the higher priced Colton models.

Mechanical "Snow Storm" Safeguards Chemical Plant

Air Foam, a new fire fighting substance developed several years ago by National Foam Systems, Inc., and used extensively in aircraft and shipboard fire fighting during World War II, is daily proving its adaptability for industry use. One such case is the specially designed Air Foam systems recently installed at the Syracuse, New York plant, The Solvay Process Division, Allied Chemical & Dye Corporation. This latest advancement in fire protection design is located in the company's chlorination and distillation buildings where benzene and benzene derivatives are processed.

Operational and approval tests of the fire fighting equipment conducted for fire insurance underwriters' and Solvay Process, upon completion of the installation, prove the adaptability of Automatic Air Foam Sprinkler systems for many hazardous manufacturing operations. These systems uniquely combine the advantages of automatic sprinklers, water spray and foam fire protection media.

Proved operational and engineering advantages are:

1. Lower water supply requirements
2. Reduced drainage requirements
3. Positive extinguishment of fires caused by flammable liquid spills
4. Prevention of flash-back following fire extinguishment
5. Prevention of fire or explosion through manual operation of systems in the event of flammable liquid spillage
6. Decreased cost of over-all fire protection

The engineering design of these Air Foam systems was developed by "Automatic" Sprinkler Corporation of America for Solvay Process and was based on recommendations by engineers of the Factory Insurance Association. The systems depend upon the integration of deluge sprinkler equipment and a foam injection system. Foam discharge outlets are located in accordance with Underwriters' requirements for automatic sprinklers. But, water pressure at the outlets is maintained at 50 PSI, rather than the 7 to 8 PSI normally maintained on deluge sprinkler systems. These higher pressures break up the water to the fineness of water spray discharge. System operation is obtained by means of standard Rate-of-Temperature-Rise heat detectors, spaced at intervals throughout the buildings. They automatically detect fire, open the deluge valve in the water supply line and permit the injection of a foam liquid stabilizer into the sprinkler system riser. The mixture of foam stabilizer and water is then aerated into a tenacious fire fighting foam at the discharge outlets of the systems.

Air Foam is discharged at the rate of 2.0 GPM per square foot, equivalent to a floor depth of approximately 3″ per minute. Sufficient foam liquid stabilizer is available to permit systems to operate normally for 10 minutes after which water spray will discharge from the outlets for as long as desired, still providing effective fire protection above the foam blanket.

During the first 10 minutes of operation, water is contained within the Air Foam bubbles, thus allowing full usage of the drainage capacity for dissipation of spilled flammable liquids.

Following operation, water flowing from the systems will wash away all foam clinging to the ceiling and processing equipment and full clean-up can be accomplished in a very short time.

The Air Foam stabilizer system is also connected to hydrant stations and can be extended to other buildings.

Air Foam protection is a 24-hour a day guardian for Solvay's chlorination and distillation buildings. Completely automatic in operation, an alarm will instantly sound in the event of fire or mechanical injury to the fire protection equipment.

For several years Solvay Process engineers, in collaboration with engineers of the Factory Insurance Association and Alexander & Alexander, insurance brokers, studied all the elements of their fire hazard problems existing in their chlorination and distillation buildings. Their considerations naturally involved fire protection costs as well as fire control advantages and various commercially available fire protection equipments and extinguishing media were carefully scrutinized. The ultimate result of their study clearly indicated that an adaptation of Automatic Air Foam protection would best solve their fire hazard problems.

Solvay Process then commissioned "Automatic" Sprinkler Corporation of America to design, engineer and install this type of protection, subject to underwriters' approval. Installation of the systems substantially reduced the over-all cost of fire safety as other types of protection would have necessitated substantial expenditures in additional water pumping and water storage facilities in order to obtain adequate fire control.

Though primarily applicable for installation in buildings housing processing and pumping equipment, Automatic Air Foam systems are ideally suited to combat 3 dimensional fires in buildings where flammable liquids with flashpoints lower than 150° are used. Adaptations of these systems are available for petroleum processing properties, steel by-products, plants, food and pharmaceutical processing operations, etc. A mechanical foam stabilizer, capable of producing an alcohol stable foam, is available for use with this equipment.

Each application requires an individual fire engineering study, giving consideration to the chemical characteristics of the flammables, water requirements, drainage facilities, corrosive conditions and the like. Made by Automatic Sprinkler Corp. of America, Youngstown 1, Ohio.

(Continued on Page 411)

Calco®

SULFAPYRIMIDINES

DIAZINE

MERAZINE ★ METHAZINE

Sulfadiazine and its combinations with the closely related Sulfamerazine and Sulfamethazine remain the standard of comparison in sulfa drug therapy. After ten years of trial and successful use in millions of patients, they enjoy today the same pre-eminence which they won so quickly on the basis of outstanding advantages.

PROVEN: high potency
PROVEN: low toxicity
PROVEN: high blood levels
PROVEN: high solubility

BULK PHARMACEUTICALS

Sulfadiazine U.S.P.*
. . . Sulfa Drug of Choice
Sulfamerazine U.S.P.*
Sulfanilamide U.S.P.
Sulfathiazole U.S.P.*
Sulfapyridine N.F.*
Sulfabenzamide*
Sulfaguanidine U.S.P.
(for human use)
Sulfamethazine
(for human use)
Sulfacetamide*
Aminoacetic Acid N.F.
Bishydroxycoumarin U.S.P.
Calcium Pantothenate (Dextro)
Choline Chloride
Tri Choline Citrate
Choline Dihydrogen Citrate
Choline Bitartrate
Cinchophen N.F.*
Folic Acid U.S.P.
Neocinchophen U.S.P.
Methylene Blue U.S.P.
(powder and crystal)
Nicotinic Acid U.S.P.
N-acetyl-p-aminophenol
Nicotinamide U.S.P.
Nicotinamide HCl
Para Aminosalicylic Acid**
Phenathiazine N.F.
(regular and drench
grades for veterinary use)
Phthalylsulfacetamide
Propylthiouracil U.S.P.
Pyridoxine HCl
Riboflavin U.S.P.
Certified Colors for Pharmaceutical Use

*and sodium salt
**with sodium or calcium salt

In keeping with long-established policy, the above products are offered to ethical Pharmaceutical and Veterinary Manufacturers only.

American Cyanamid Company

PHARMACEUTICAL DEPARTMENT • CALCO CHEMICAL DIVISION
BOUND BROOK, N. J.

CALCO CHEMICAL DIVISION • AMERICAN CYANAMID COMPANY
1505 North Kimball Avenue, Chicago 18, Illinois

CALCO CHEMICAL DIVISION • AMERICAN CYANAMID COMPANY
5025 Pattison Avenue, St. Louis 10, Missouri

CALCO CHEMICAL DIVISION • AMERICAN CYANAMID COMPANY
401 North Broad Street, Philadelphia 8, Pennsylvania

CALCO CHEMICAL DIVISION • AMERICAN CYANAMID COMPANY
2300 S. Eastern Avenue, Los Angeles 22, California

REPRESENTED IN CANADA BY CALCO CHEMICAL DIVISION • NORTH AMERICAN CYANAMID, LIMITED
P.O. Box 6120 Montreal, P. Q. 5550 Royalmount Avenue, Town Of Mount Royal . . . Royal Bank Bldg., Toronto, Ontario.

Readers' Questions

DENTURE CLEANER: Can you supply me with the formula for a powder used for cleaning false teeth. Baltimore.

With respect to denture cleaners, The American Dental Association stresses the importance of the brush in the cleaning process and suggests that the following may be used to aid the denture brushing: toilet soap, bicarbonate of soda, precipitated calcium carbonate or dilute solution of trisodium phosphate. This source provides the following formula for a simple denture cleaner:

Trisodium phosphate	**120.00 Gm.**
Cinnamon oil	**0.30 cc.**
Amaranth solution	**2.00 cc.**

Dissolve scant ½ teaspoonful in half glass of water and use with brush. It is noted that cellulose acetate type denture is decomposed by alkaline substances. Phenol formaldehyde and acrylic types withstand most chemical agents.

WALNUT STAIN: Several years ago, you published a formula for the preparation of a walnut stain from walnut hulls or skin from the English walnut. We have a dermatologist in our city, who wishes us to prepare some of this walnut stain for application to depigmented areas on human skin. I have been unable to locate the issue of your journal which gave the method of extraction of the stain. I would appreciate it if you would please send me the formula for extraction of the stain from the fresh or dried walnut skin. Or, if you have any other suggestion, I would like to hear from you. San Luis Obispo.

You have an excellent memory. We did publish an item on walnut stain for the skin, back in 1946. For your benefit I am repeating these formulas, which originally appeared in Goodman's text:

Green walnut hulls	**70.0 parts**
Alum	**5.0 "**
Water, to make	**100.0 "**
Alcohol	**32.0 "**

Triturate the first three ingredients in mortar. Add the alcohol and let stand for four days. Filter.

Fresh green walnut hulls	**24.0 parts**
Ammonia water	**24.0 "**
Water, to make	**100.0 "**

Triturate in mortar; evaporate to syrupy consistency. It is stressed that the shell of the walnut is useless; the color principle residing in the hull. The intensity of the color can be modified by dilution.

It seems to me that you might do well to suggest that the dermatologist prescribe modern pigmented covering creams to mask the pigmented areas.

DATA ON HAIR AND SCALP: We are in need of scientific and medical information dealing with shampoos, hair lotions, tonics and the effects of alcohol and various chemicals on the scalp, skin and hair. Can you supply us with a bibliography or sources of information and reference material on these subjects? St. Louis.

We have had a number of articles on such products during recent years and I am sure you will find them listed in the indices of DRUG AND COSMETIC INDUSTRY. As you are probably aware, there are two well-known dematological publications: *Archives of Dermatology and Syphilology* and the *Journal of Investigative Dermatology*. These frequently carry articles on the subjects in which you are interested. A check of their annual indices in any medical library will provide you with further information.

Most text books on dermatology carry a chapter on diseases of the hair and scalp and their treatment. Two books that I might call to your attention are "The Hair and Scalp" by Agnes Savill, and "Your Hair, Its Health, Beauty and Growth", by Herman Goodman. I should like to call your attention to the fact that an article on dandruff appeared in our March issue.

EPILATING WAX: Please suggest a formula for a depilatory wax for use by operators in beauty parlors. New York City.

The following, taken from Thomssen's text, is a typical epilating wax:

Light colored rosin	**52.0 per cent**
Yellow beeswax	**25.0 " "**
Paraffin	**17.0 " "**
Petrolatum	**5.0 " "**
Perfume	**1.0 " "**

Melt the rosin and the waxes, mix and add the petrolatum, then when the temperature drops to about 60 °C., add the perfume and pour the melted mass into suitable molds. When this wax is used it is melted and painted over the surface to be dehaired.

such

trust

deserves

the

best

The dentifrice manufacturer enjoys a special trust that his customers place in his product. To remain faithful to that trust his product must be made of only the finest ingredients. Sturge Precipitated Calcium Carbonate U.S.P. is such a product. Its capacity to form stable dispersions in glycerine-water mixtures, its mild and controllable detergent action on teeth and, above all, its chemical inertness and physical harmlessness to tooth surfaces make Sturge P.C.C. a necessary raw material for the finest tooth pastes and powders. The producer, John & E. Sturge, Ltd., of Birmingham, England, will meet your special density requirements. Write today on your company letterhead for a sample and further information.

specify

STURGE PRECIPITATED CALCIUM CARBONATE

for Dentifrice & Cosmetics · Paper-making & Coating · Paints & Distempers · Rubber & Plastics Drugs · Fermentation Processes · Printing Inks

SOLE DISTRIBUTOR:

H. J. BAKER & BRO. 600 FIFTH AVENUE NEW YORK 20, NEW YORK

Advancing Therapy

Banthine for Excessive Sweating

In the studies reported by A. G. Zupko (*J. A. Ph. A.* Scient. Ed. 41:212, 1952), 44 subjects with varying degrees of hyperhidrosis and four normal subjects were given daily doses of Banthine bromide (*beta*-diethylaminoethyl xanthene - 9 - carboxylate methobromide) over a period of four to six months. A few selected subjects were also given placebos at irregular intervals. A complete hematological study, electrocardiogram and basal metabolic rate were done on each subject before administration of the drug and at intervals during the study. Results indicate that the hematopoietic system is unaffected, and that the basal metabolic rate and electrocardiogram tracing deviate little from the normal. Some side reactions appear concomitant with administration of the drug, and in a few cases a tolerance develops. The medication effectively controlled the hyperhidrosis in approximately 90 per cent of the test subjects.

From these data, Zupko concludes that Banthine bromide effectively controls hyperhidrosis in a majority of cases but administration of the drug must be continued indefinitely. He warns, however, that the drug should not be dispensed except on the advice of a physician.

Antibiotics in Otitis Externa

In a report on the use of an antibiotic mixture in the treatment of infection of the external auditory canal, J. W. Graves (*Eye, Ear, Nose & Throat Mo.* 31:32, 1952) cites evidence from the literature that indicates that *Pseudomonas aeruginosa* is the organism most frequently found in external otitis and that fungi play a minor role. *Staphlococcus albus* is the organism most frequently found in normal ears. Acute or chronic otitis externa is accompanied by dermatitis, crusts, scales, and fissures at the meatus, and in many cases involves the tympanic membrane, thereby reducing hearing acuity. Occasionally, there is an eczematoid condition. The auditory canal has a moist coating of debris. The itching is severe and annoying. Occasional bleeding from the ulcerated areas of skin generally causes the patient to consult a physician. A watery discharge resulting from the infection is also common. Graves used a preparation containing 8,000 units of polymyxin and 400 units of bacitracin per gram in 100 consecutive cases of infections of the external ear. In 89 cases where adequate follow-ups were obtained, the results were uniformly excellent. In only one patient did their appear to be an untoward reaction to the use of the ointment.

Intravenous Procaine for Pruritus

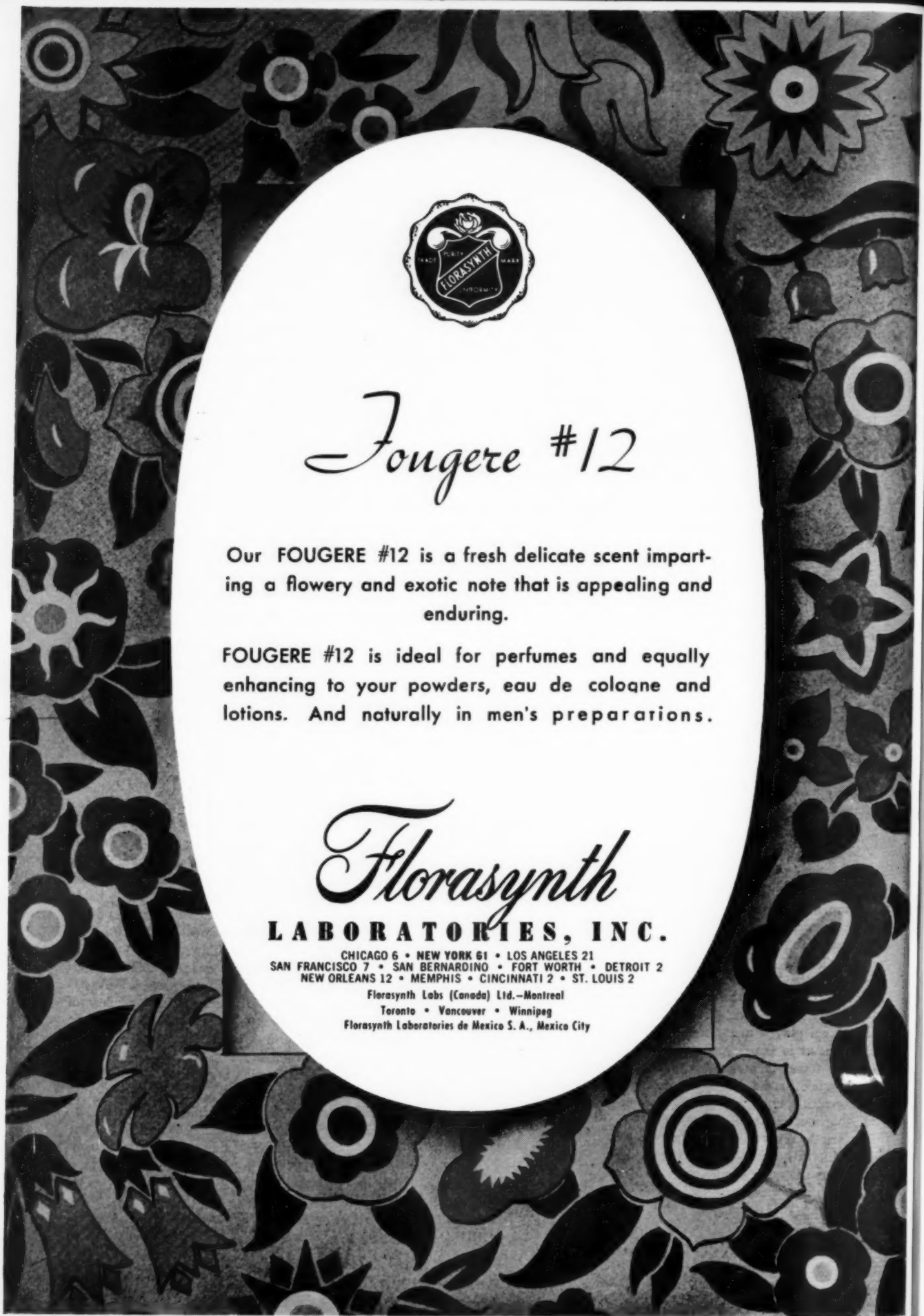
In their report in the *A. M. A. Archieves of Dermatology and Syphilology* (65:39, 1952), L. G. Beinhauer, G. J. Thomas and S. R. Perrin state that 181 patients were treated intravenously with procaine hydrochloride in order to evaluate its efficacy in the control of pruritus. These were divided into two groups classified, according to the basis of their dermatoses, as neurogenic or miscellaneous. Complete relief was afforded in 59 patients, 32.5 per cent; temporary relief in 67 patients, 37.2 per cent, and failure occurred in 55 cases, 30.3 per cent. From the data gathered, Beinhauer and his colleagues feel that the intravenous use of procaine offers another approach to combat pruritus. It is safe when properly controlled and it is recommended when other therapies fail. Their clinical experiences indicated that a dosage of 0.1 to 0.2 per cent of procaine hydrochloride in 500 cc. isotonic saline solution was best tolerated by the patients when given over a period of 60 to 90 minutes. All patients were routinely given barbiturate medication one hour before injection. Ascorbic acid in the amount of 200 mg. was added to each infusion, as we felt it increased the resistance against toxic side effects and benefited patients with poor nutrition. When edema was present, 5 per cent dextrose was added and removed when the edema subsided. In patients with heavy nervous irritability and fear of the infusion thiopental sodium U. S. P., in dosage of 200 to 300 mg., was added to the first two or three injections. This afforded a very satisfactory approach to overcome these symptoms and allowed further treatment to be continued without incident. It produced dramatic relief of pruritus and allowed the patient to obtain the much-desired sleep. The most favorable and dramatic responses obtained with this modified therapy were in the group with generalized neurodermatitis.

Penicillin as a Prophylaxis

The status of penicillin as a preventive of gonorrhea is indicated in the report of R. W. Babione, L. E. Hedgecock and J. P. Ray (*U. S. Armed Forces Med. J.* 3:973, 1952). They report that penicillin given by mouth in doses of 250,000 units within a few hours after exposure has been shown to be nearly 100 per cent effective in preventing gonorrhea. It is more readily accepted than either mechanical or local chemical prophylaxis, but usage varies widely with the emphasis given. Some medical officers discourage its use on theoretical grounds. Its efficacy has remained unchanged after three years of use and resistant forms of gonococci have not been encountered. It is extremely improbable that this method of administration will have any influence on the development of resistant forms of either the gonococcus or *T. pallidum*.

The ability of penicillin to prevent syphilis in doses of 250,000 units by mouth is suggested, but it is not dependable. It will almost certainly fail in the presence of heavy inoculums. The antibiotic has shown no indication of altering or masking the evolution of primary and seconary syphilitic lesions in those it fails to protect. It has produced no increase in frequency of latent syphilis, as seen by serologic follow-ups, total cases, and by analysis of each latent case during 1950. Further investigation is required.

Babione and his colleagues note that the use of penicillin tends to lead to abandonment of mechanical and chemical prophylactic methods if indoctrination is careless. This in turn leads to increase of chancroid, nongonococcal urethritis, and, if extreme, syphilis as


FLORASYNTH
Fougere #12
Our FOUGERE #12 is a fresh delicate scent imparting a flowery and exotic note that is appealing and enduring.
FOUGERE #12 is ideal for perfumes and equally enhancing to your powders, eau de cologne and lotions. And naturally in men's preparations.
Florasynth
LABORATORIES, INC.
CHICAGO 6 • NEW YORK 61 • LOS ANGELES 21
SAN FRANCISCO 7 • SAN BERNARDINO • FORT WORTH • DETROIT 2
NEW ORLEANS 12 • MEMPHIS • CINCINNATI 2 • ST. LOUIS 2
Florasynth Labs (Canada) Ltd.—Montreal
Toronto • Vancouver • Winnipeg
Florasynth Laboratories de Mexico S. A., Mexico City

well. This carelessness can be largely overcome. However the question of penicillin sensitivity is still open. Most cases have been mild, and have occurred after the patient took the first tablet. The severe penicillin reactions reported have almost all been clearly due to intramuscular usage and intramuscular sensitization. Impressions that the oral use of penicillin has caused sensitization are unconfirmed considering the evidence penicillin tablets containing 250,000 units are recommended as a prophylactic measure against gonorrhea in high incidence areas only and with proper indoctrination as to their limitations.

Penicillin Injections for Carbuncles

It is pointed out by W. A. Dale and C. A. Haug (*J. A. M. A.* 149:527, 1952) that a carbuncle is a necrotizing infection of the skin and subcutaneous tissue that is usually due to the Staphylococcus aureus hemolyticus. If untreated, this lesion results in prolonged morbidity, a few metastatic infections, a long healing period, and an appreciable mortality. Of interest, therefore, is an improved method of treatment employed by these workers in 14 cases of carbuncle. This consists of the injection of penicillin in concentrations of 100,000 units per cubic centimeter about the periphery of the lesion to a total of 300,000 to 500,000 units for a single or several daily injections. This treatment was combined with the parentral administration of penicillin, general rest, and local application of hot, wet compresses. All carbuncles responded satisfactorily to these measures and without complications.

The series of carbuncles treated by this method of local penicillin injection is compared with all the carbuncles treated in 1940 (18 cases) by incision or excision without penicillin therapy, and with those treated in 1947-48 (21 cases) with incision or excision with penicillin therapy parenterally but not locally. This suggests that local injection therapy produces a more rapid healing of the lesion after a briefer period of hospitalization without an increase in complications. Except in the fairly rare cases requiring surgical incision or excision as a life-saving measure, Dale and Haug feel that local penicillin therapy is at present the treatment of choice, although each carbuncle must be individually considered and carefully followed for response. Further study will be necessary to determine if there are any specific contraindications to this treatment.

Chlorophyll for Ozena

The value of chlorophyll in the treatment of ozena is indicated by G. Finocchi (*Minerva Med.* 43:134, 1952, through *J. A. M. A.* 149:792, 1952). He reports that three patients with ozena at the initial stage and seven in whom the disease had extended to the nasopharynx causing headaches, bone atrophy, formation of scabs, and the characteristic unpleasant odor were treated with chlorophyll. A sponge saturated with a 0.5 per cent isotonic solution of chlorophyll or a 1 per cent chlorophyll ointment was applied to the nasal mucous membranes daily for two to three hours. Within a few days the bad odor was eliminated, scabs and headache decreased, and the mucous membranes acquired a deeper color. When the treatment was interrupted for 10 or more days, ozena reappeared rapidly. Elimination of the odor was permanent while the chlorophyll ointment or large dose of a powder obtained from the isotonic solution were applied every two days. Although chlorophyll does not cure ozena, it neutralizes the offensive odor.

Combined Antibiotics for Brucellosis

W. C. Herrell and T. E. Barber (*Post-grad. Med.* 11:476, 1952) have studied the clinical effectiveness of various combinations of chemotherapeutic and antibiotic agents in the treatment of brucellosis. Their experience leads to the conclusion that there are two combinations of antibiotics which are, to date, the most effective in the treatment of this disease. One combination consists of the simultaneous administration of aureomycin and dihydrostreptomycin; the other consists of the simultaneous use of terramycin and dihydrostreptomycin. These two combinations of antibiotics appear to be equally effective. The investigators have the impression, although not statistically proved, that patients tolerate terramycin somewhat better than aureomycin.

To date 43 patients with culturally proved brucellosis have been observed and treated with one of the two combinations of antibiotics. Thirty-six of these patients had the bacteremic form of the disease. The bacteremia of 34 of these 36 was owing to *Br. abortus, Br. Melilenis* or *Br. suis.* The species causing the bacteremia of the other two was not definitely ascertained. Seven had culturally proved brucellosis with localizing lesions. In addition, 17 patients who were acutely ill and had unmistakable evidence of brucellosis, although blood cultures were not positive, have been treated. In these 60 cases there have been two bacteriologic relapses and one symptomatic relapse. Retreatment was necessary in two cases. This represents a clinical-bacteriologic relapse rate of 5 per cent, in other words a recovery rate of 95 per cent. The follow-up period in this group of cases usually extends over a period of from three months to more than two years.

The combined use of terramycin or aureomycin and dihydrostreptomycin is not presented as a specific treatment of brucellosis. However, the results to date justify the conclusion that the combination of either terramycin or aureomycin with dihydrostreptomycin is far superior to any other currently available method. Furthermore, the undesirable toxic reactions at times found during the use of other methods have not been encountered.

Psychosis from Barbiturate Withdrawal

There have been scattered reports of the addicting property of barbiturate drugs and the serious symptoms produced by their abrupt withdrawal. As noted by N. C. Morgan (*J. A. M. A.* 149:759, 1952) many physicians erroneously think of the syndrome as one of barbiturate toxicity rather than a withdrawal syndrome. This distinction is vital, since the best treatment available at present is the continued administration of a barbiturate (e. g., pentobarbital) with a gradual reduction in its dosage. Those who continue to think in terms of toxicity only cause aggravation of the symptoms by withholding barbiturates and attempting to secure sedation with other hypnotics. The importance of early diagnosis and treatment is illustrated in two cases described by Morgan. He finds that both of these cases are particularly interesting because of the reluctance of physicians unfamiliar with the syndrome to administer barbiturates in sufficiently high dosage over a sufficient period of time. Both cases illustrate that too early reduction in barbiturates results in relapse. The exact dosage is dependent on the clinical picture and extent of the addiction. Pentobarbital, 0.1 Gm. four times a day, usually constitutes an adequate dosage at first. One of these cases illustrates that morphine and scopolamine hydrobromide are of little benefit in this disorder.

American Distilled Oils

Produced at our Brooklyn Factory

OILS

CLOVE	BALSAM PERU	OPOPONAX
NUTMEG	CELERY	PIMENTO
ORRIS LIQUID, Conc.	GERANIOL	OLIBANUM
STYRAX	CITRONELLOL	SANDALWOOD
CASCARILLA		PATCHOULY

also LINALOOL • CITRAL • EUGENOL • RHODINOL

RESIN LIQUIDS

OLIBANUM		STYRAX
LABDANUM		BALSAM PERU
OPOPONAX		BALSAM TOLU
ORRIS	BENZOIN	TONKA

Essential Oils • Aromatic Chemicals • Perfume Materials • Colors

OFFERING ROSE ABSOLUTE

66 *Years of continuous quality service—*
suppliers and manufacturers of—
Essential Oils • Aromatic Materials • Flavors

GEORGE LUEDERS & CO.
NEW YORK
GL
REGISTERED TRADE MARK

GEORGE LUEDERS & CO.

427 WASHINGTON ST., NEW YORK 13, N. Y.

Chicago • San Francisco Montreal • Philadelphia • Toronto

Established 1885

Compounder's Corner

Face Powder Manufacture

In his consideration of the fundamentals of face powder manufacture W. P. Pepper (*Perf. & Essent. Oil Rec.* 43:77, 1952) feels that it is important to first consider the requirements of such a product since these determine the selection of the raw materials. Thus, it is generally agreed that a good face powder should: (1) Be easy to spread evenly. (2) Have a matt appearance and mask minor skin blemishes. (3) Be persistent even though the face may be exposed to varied conditions such as slight rain or moderate perspiration. (4) Improve the appearance of the skin. (5) Have a pleasant but not obtrusive perfume. (6) Be tinted in such a way that it will blend with the natural color of the skin.

Ease of spreading is dependent on talc which is the major constituent of modern face powders. Talc consists of small flat plates which readily slide over one another, giving the material the property known as "good slip." To achieve a matt appearance and a satisfactory covering power a white powder of high covering power and matt appearance must be included in the formula. Probably the best material from this standpoint is titanium dioxide which has a higher covering power than any other white powder and which is chemically inert. Unfortunately titanium dioxide is not freely available and consequently zinc oxide is widely used although its covering power is not more than 40 per cent of that of titanium dioxide.

The materials which have the most marked effect in improving the clinging properties of face powder are zinc and magnesium stearates. These materials have a very low bulk density, a good white color and they are almost completely odorless. The proportion generally lies between 5 per cent and 10 per cent. Apart from improving the cling of the powder the metallic stearates have a marked effect in making the powder water repellant. Many formulae include a proportion of kaolin which can be obtained as a good white powder having an extremely fine particle size, it is easily spread, has a matt appearance, it is chemically inert and it has the important property of absorbing small quantities of moisture without changing its appearance.

Calcium carbonate is in itself a material having several desirable properties as it is easily spread, it has a matt appearance and a much greater covering power than talc. Magnesium carbonate is commonly used as a means of distributing the perfume through the powder. It will absorb several times its own weight of perfume without any visible moisture. The highly perfumed powder obtained in this way can readily be mixed with the other constituents.

The choice of perfume is very important. The perfume must be well fixed and free from readily oxidized ingredients, as face powder has an enormous surface area. The proportion of perfume used is generally 0.2 per cent to 0.5 per cent of the total powder. Consultation with a perfumer is strongly recommended in the selection of a perfume compound. Pigments used for the tinting of face powder should be chemically inert and insoluble in either water or oil and unaffected by prolonged exposure to sunlight. The pigments which most closely approximate the ideal are metallic oxides but as the range of metallic oxides is limited and as their color is generally rather drab, pigments consisting of organic dyestuffs deposited on an inorganic nucleus are widely used.

In the manufacture of face powder it is usual to prepare a perfume base and a color base which, mixed with the other white ingredients produces the finished face powder. The perfume base is prepared by introducing the perfume in the form of spray into a white powder in a mixing machine while the mixing operation proceeds. The color base is prepared by Milling pigments with one of the white powders, calcium carbonate being the most suitable for this purpose. The rate of output required determines the choice of milling equipment. Excellent results can be achieved with a ball or pebble mill where a slow rate is acceptable. For a higher rate of output the type of mill is generally a pin mill or the pulveriser type in which the powder is forced through a robust screen by means of rotating hammers enclosed in a strong casing. With both types of mill, preliminary mixing of the pigment and the white powder is necessary to achieve a uniform product.

From this stage the manufacture of a finished face powder is in principle extremely simple. The individual white constituents are mixed with the color base and the powder base and sieved to produce the finished powder. The batch is sieved preferably through a silk screen of 120 mesh, after which the powder is stored in a metal bin fitted with an air-tight lid and allowed to stand for a period of three days to one week before filling into boxes.

Water-in-Oil Emulsion Day Creams

In a continued discussion of face creams N. S. Peel (*Soap, Perf. & Cosmetics* 25:503, 1952) calls attention to the important group of water-in-oil creams which, although used chiefly for their skin lubricating and greasing effect, have also found application in the manufacture of day creams and all-purpose creams. They have been particularly recommended for use on so-called "dry" skins and for more general use in climates where effectively water-repellent films are to be preferred. They do not tend to dry out in the containers and do not require high proportions of added humectants. Historically, the first of these water-in-oil creams to appear on the market were emulsions based on lanolin and, later, on lanolin concentrates and "absorption bases." A world-famous facial or all-purpose cream of German origin is described as consisting of:

Wool wax alcohols	**2.0 parts**
Petroleum jelly	**31.3 "**
Glycerine	**1.0 "**
Perfume	**0.2 "**
Water	**65.5 "**

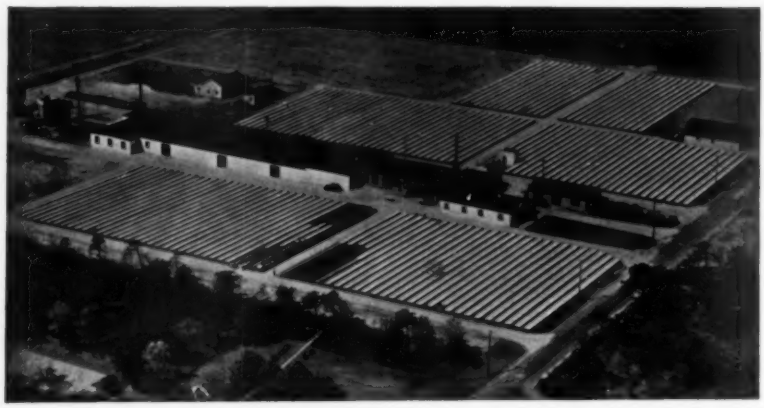
Melt the wool wax alcohols and petroleum jelly together and bring to 60°C. Add the water and glycerine, brought to the same temperature, little by little, using a slow-stirring paddle

KOSTER KEUNEN

★

BEESWAX

U. S. P. Pure Sunbleached
U.S.P. Pure Yellow Refined



Office and Refinery: Sayville, N. Y.

MICRO-CRYSTALLINE PETROLEUM WAXES

OZOKERITE • SPECIAL WAX BLENDS • CERESINE

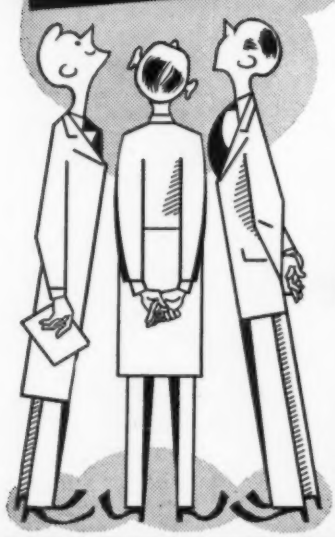
Ask for samples, prices and technical data

KOSTER KEUNEN . . . . SAYVILLE, N. Y.

PHONE: SAYVILLE 400

GUMS

(CRUDE, POWDERED)



GUM ARABIC
GUM ARABIC BLEACHED
GUM LOCUST (Carob Flour)
GUM TRAGACANTH
GUM KARAYA (Indian)
GUM GHATTI GUM EGYPTIAN

CHEMICALS AND DRUGS:

CASEIN
EGG YOLK
EGG ALBUMEN
BLOOD ALBUMEN

MENTHOL (Crystals)
JAPAN WAX
QUINCE SEED

REPRESENTATIVES:
CHICAGO:
CLARENCE MORGAN, INC.
BOSTON:
P. A. HOUGHTON, INC.
PHILADELPHIA:
HARRY W. GAFFNEY
LOS ANGELES:
JOHN A. HUGHES
ST. LOUIS:
C. L. IORNS CO.

PAUL A. DUNKEL & CO., *Inc.*

IMPORTERS AND EXPORTERS

1 WALL ST. NEW YORK 5, N. Y. Hanover 2-3750
CHICAGO: 325 NO. WELLS ST. TEL. SU. 7-2462

device (preferably a counter-current mixer) until the batch is thoroughly homogeneous. Continue stirring and allow the temperature to drop to 30°C. Add the perfume gradually and continue stirring until room temperature is reached. The emulsion should be run though a colloid mill or roller mill before being filled into jars or tubes.

Another formula for a day cream is cited by Peel as follows:

Wool wax alcohols	**3.0 parts**
Lanolin, anhydrous	**10.0 "**
Ozokerite, bleached	**3.5 "**
Mineral oil	**18.0 "**
Preservative	**0.2 "**
Stearyl alcohol	**2.5 "**
Distilled water	**62.8 "**

Peel suggests that a reduction of "greasiness" may be accomplished by replacing the mineral oil with a suitable fatty ester (e.g., isopropyl myristate or palmitate) by including cetyl and stearyl alcohols; and by using some of the more recently introduced hydrophilic esters as additional emulsifying agents, with a view to increasing the ratio of water to fat content. A suitable hydrophilic ester for the partial or complete replacement of lanolin is sorbitan sesquioleate.

Of increasing interest in this particular field of cosmetic formulation are the non-ionic sorbitol and mannitol esters and their polyoxyalkylene derivatives. The following formula for an all-purpose cream is given to illustrate the use of such materials:

Mannitan mono-oleate	**4.0 parts**
Petroleum jelly, short fibre	**43.0 "**
Lanolin, anhydrous	**4.0 "**
Cetyl alcohol	**2.0 "**
Isopropyl myristate	**4.0 "**
Paraffin wax	**7.0 "**
Carbitol or glycerine	**2.0 "**
Magnesium sulphate	**0.2 "**
Preservative	**0.2 "**
Perfume oil	**0.2 "**
Water	**33.4 "**

Warm the aqueous and oil phases separately to 75°C. Add the former slowly to the latter, with medium to fast stirring. Add the perfume at 55°C. Such creams may be milled or homogenized if desired.

It is suggested that cream rouge may be prepared according to a rather similar type of formula, using sorbitan sesquioleate in place of the mannitol ester, together with suitable pigments.

Mascaras

According to S. S. Waldhorn (*Alchimist* 6:119, 1952), the disadvantages of older type mascaras based on soap have been avoided through the use of ethanolamine soaps. Illustrative is the following formula for making a molded mascara:

Oleic acid	**567 Gm.**
Triethanolamine	**2383 "**
Stearine	**5676 "**
Carnauba wax	**4767 "**
Petroleum jelly	**1362 "**
Lanolin	**340 "**
Perfume	**sufficient**
Color	**sufficient**

The ingredients are heated on a water bath until completely soluble. They are then taken from the heat and allowed to cool. The perfume and the color are then added, and the mass is further cooled and milled. It is then re-heated on a warm water bath and poured into the molds. There it is allowed to cool until solidified.

He also presents the following formula for a water-resistant mascara of the cream type, which is ideal for use by those who wish to maintain the beauty of the lashes even when swimming. The following product is completely insoluble in water and therefore it is excellent for this purpose:

Beeswax	**11.0 parts**
Cotton oil	**1.0 "**
Turpentine	**21.0 "**
Distilled water	**5.0 "**
Triethanolamine	**0.5 "**
Color	**sufficient**
Perfume	**sufficient**

The wax is melted in a warm water bath and the cotton oil and turpentine are added. The temperature is kept at 75°C. Then the alkaline solution is added, after being heated to the same temperature. Emulsification is completed and the mass is cooled. After cooling, the color and the perfume are added and the mass is passed through the mill. Then it is put into the tin tubes.

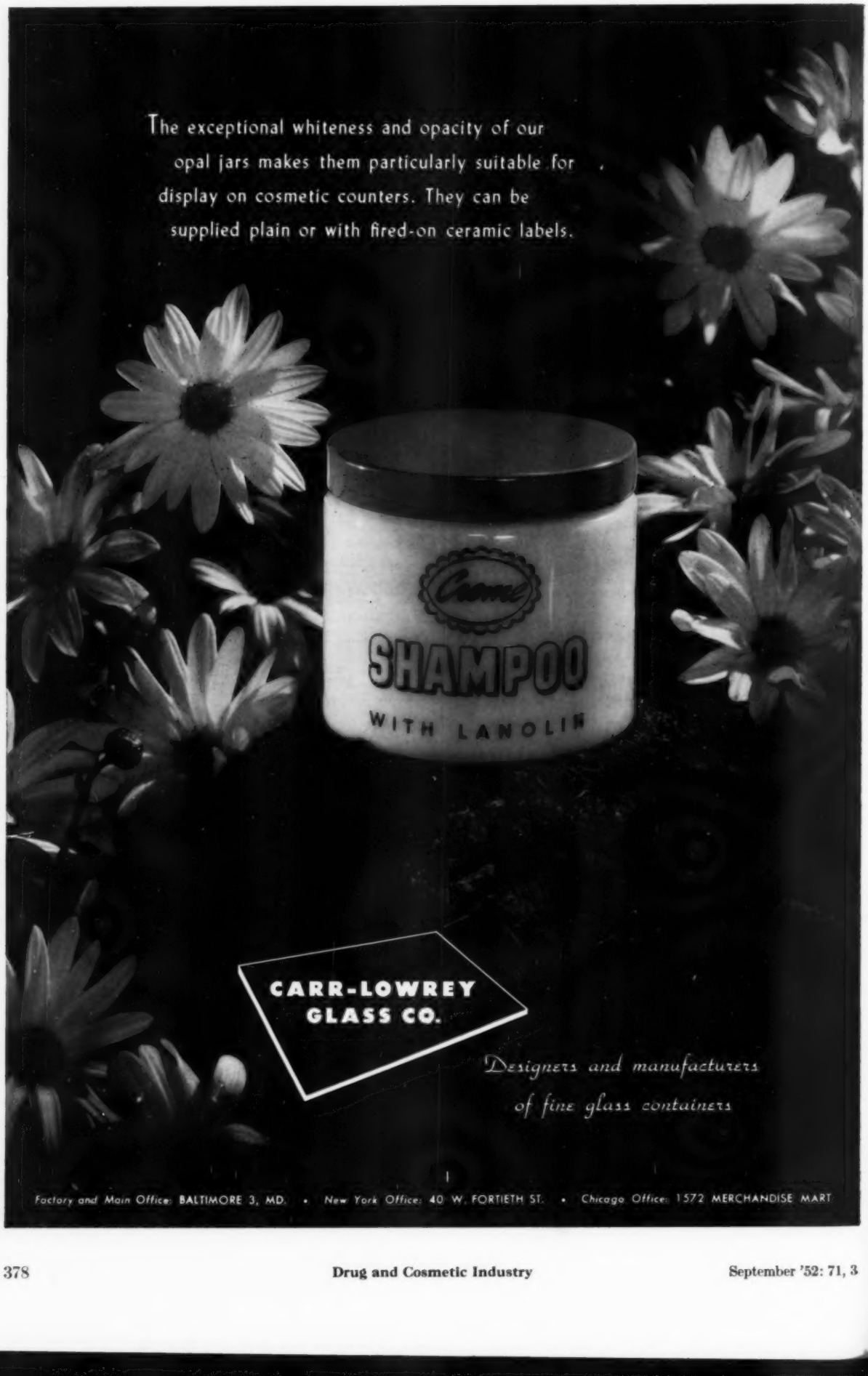
Fluid Lanolin Preparation

According to a note in *Soap, Perfumery and Cosmetics* (25:189, 1952). British patent 661,248, granted to Lanolin Plus Cosmetics, Inc., provides procedures for making cosmetics having a high lanolin content in comparatively fluid solution, which spread easily on the skin without tackiness, in which there is complete absence of added water, no emulsion is formed and in which the lanolin is substantially in solution. The cosmetic preparation, according to this invention, is a fluid, stable homogeneous solution comprising from 15 to 50 per cent by weight of lanolin, dissolved in isopropyl palmitate. This solution is of low viscosity and spreads easily on a large area of the skin.

Compressed Soluble Tablets

With the advent of the antibiotics, say G. J. Sperandio and H. G. DeKay (*J. A. Ph. A.*, Scient. Ed. 41:245, 1952) soluble tablets similar to those used for hypodermic medication have become a popular form of dosage. Very small, rapidly soluble, and easily disintegrated, these tablets are recommended for administration in infant formulas, milk, or similar liquids, and in some instances are placed directly under the tongue to be dissolved. Most of these tablets have been made by molding rather than by compression on a tablet machine. This method of manufacture is used because lactose, the most common base, cannot normally be compressed in a tablet machine without adding to it a lubricant to facilitate compression; and since most of the good lubricants are insoluble, a completely soluble tablet would not be obtained.

On the basis of these considerations, Sperandio and DeKay decided to study the possibilities of making compressed soluble tablets from lactose granulations and to find a soluble lubricant which would yield a satisfactory tablet both from a physical and a therapeutic standpoint. From these studies they concluded that: 1. The most suitable granulation for compressed soluble tablets using lactose as a base is made by granulating lactose with a 2 per cent solution of liquid glucose. 2. Lactose granulations made with sugars as the adhesives compress more readily and disintegrate more quickly than those made with gums. 3. The amount of lubricant required for a lactose granulation increases as the granule size decreases. 4. A 20-mesh granule is the optimum size for making compressed tablets weighing one grain or less. 5. Smaller amounts of a lubricant are needed when the lubricant is in a very fine powder, and the disintegration time of the tablet is decreased as the particle size of the lubricant is decreased. 6. A mixture of 4 per cent sodium benzoate and 1 per cent sodium acetate as a 60-mesh powder is a satisfactory soluble lubricant. 7. Powdered "Carbowax 4000" in a 60-mesh size is a satisfactory soluble lubricant for tablet granulations.


The exceptional whiteness and opacity of our opal jars makes them particularly suitable for display on cosmetic counters. They can be supplied plain or with fired-on ceramic labels.
Creme
SHAMPOO
WITH LANOLIN
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 40 W. FORTIETH ST. • Chicago Office: 1572 MERCHANDISE MART

Patent Thoughts and Trends

*by Thomas Cifelli, Jr.**
PATENT ATTORNEY

WATER-SOLUBLE CRYSTALLINE RIBOFLAVIN

Old adages have a way of proving themselves time and time again. One of these is that there is no monopoly on brains. This saying was just given added currency by the issuance of U.S. Patent 2,603,633 to Julian K. Dale, the patent being assigned to Commercial Solvents Corporation. Although Merck has been the most active in riboflavin research, it remained for Commercial Solvents to find the apparent answer to the riddle of making riboflavin water-soluble.

In the past the problem of solubilizing riboflavin has been attacked from the point of view of adding solubilizing agents, or of trying to find soluble derivatives of riboflavin, or of using solvents in which riboflavin is more soluble than in water. For example, boron compounds, nicotinamide, gallic acid salts, urea, benzoic acid salts, L-tyrosine amide, veratryl alcohol, propylene glycol and vanillin have all been the subjects of numerous patents claiming these compounds as solvents for riboflavin, solubilizing agents or to form soluble reaction complexes with riboflavin.

According to Dale, prior to his invention it was not possible to prepare aqueous solutions of pure riboflavin in concentrations sufficient for hypodermic administration of good therapeutic doses of riboflavin without the necessity of injecting very large volumes of liquid or injection of riboflavin in admixture with or solutions of partially toxic materials.

Dale's solution to the problem of preparing water-soluble riboflavin which at the same time was non-toxic and possessed the desired physiological activity, was based on his discovery of a third crystalline type of riboflavin, called type C. Type A is a known crystalline form and is only very slightly soluble in water. Type B has a solubility in water of about 200 mg. per liter provided about twice this amount is added to the water. Dale's type C is said to berelatively dissolving completely in water to the extent of 1200 mg. per liter at room temperatures.

The greatly superior water solubility of type C is shown in the graph below:

Type C is also more soluble in alcohol than types A and B, as shown by the following table:

Crystalline Form	Solvent	Solubility (mg./l)
A.....	Ethyl alcohol	20
B.....	"	45
C.....	"	660
A.....	Methyl alcohol	35
B.....	"	180
C.....	"	540

Since the physiological activity of riboflavin is the sixty-four dollar question, rat feeding tests were run on Type C along with the U.S.P. Reference Standard, with the results tabulated on page 381.

Meeting the U.S. Pharmacopoeia specification for riboflavin apparently caused some concern at Commercial Solvents because it was found that type C gives a positive test for lumiflavin when tested in chloroform as ordinarily sold on the market. However, this was explained away on the basis that such chloroform contains about one per cent alcohol, added as a preservative, and the reason for the apparent positive test is that type C riboflavin is so much more soluble than the other forms of riboflavin that sufficient of this riboflavin itself dissolves in the chloroform (containing alcohol) to impart a color to the solution. However, when the alcohol is removed by washing the chloroform with water and drying out the water, a negative lumiflavin test is obtained. Dale claims, therefore, that in alcohol-free chloroform, type C riboflavin shows no signs of the presence of lumiflavin.

An idea of the process of preparing type C crystalline riboflavin is given in the patent, from which Example 1 is reproduced as follows:

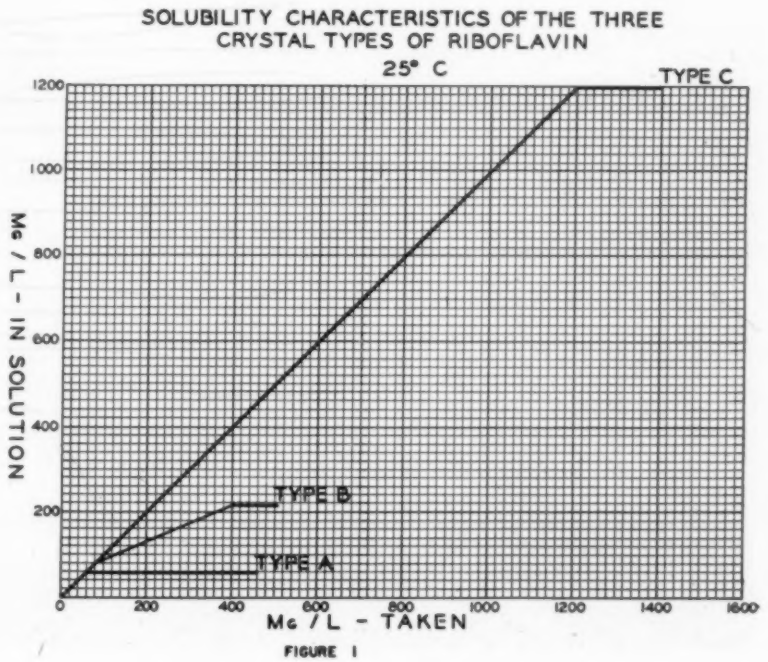


FIGURE 1

*Gaylor, Cifelli & Jurick, Newark, N. J.

KESSCO PRODUCTS

CHEMICAL SPECIALTIES

EMULSIFIERS

of Definite Specifications

GLYCERYL MONO STEARATE
PURE AND SELF-EMULSIFYING

KESSCO WAX A-21
FOR ANTI-PERSPIRANTS, DEODORANTS, OINTMENTS

PROPYLENE GLYCOL MONO STEARATE
PURE AND SELF-EMULSIFYING

new

POLYMERIZED GLYCOL STEARATES, LAURATES, OLEATES, ETC.

for

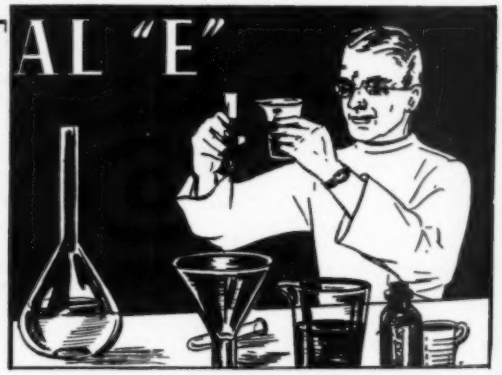
PHARMACEUTICAL, TOILETRIES, COSMETICS ETC.

EST. 1921

KESSLER CHEMICAL CO., INC.

STATE ROAD and COTTMAN AVE. • PHILADELPHIA 35, PA.

PLYMOUTH CRYSTAL "E" WHITE OIL



This oil has been the standard for many of America's very oldest cream manufacturers since their origin. It is water-white and crystal-pure . . . odorless and tasteless . . . of U. S. P. Acid Test and free of fluorescence . . . especially refined for the cosmetic industry and as pure as a mineral oil can be made. Because of its extra lightness you should specify it for the soft, light, fluffy creams demanded today.

Other mineral oils of heavier body if desired.

PLYMOUTH PETROLATUMS U. S. P.

All Petrolatums are refined and straight filtered from Pennsylvania Crude. None are acid treated and all are long fiber and of U. S. P grades.

Both soft, low melting point consistencies and pharmaceutical grades . . . as well as the regular grades for the drug and cosmetic industry. All grades are offered from Snow White to Amber.

A *Complete* LINE OF COSMETIC RAW MATERIALS

M. W. PARSONS-PLYMOUTH, Inc.

59 BEEKMAN STREET
NEW YORK, N. Y., U. S. A.

Telephone: BEEKMAN 3-3162—3163—3164
Cable Address: PARSONOILS NEW YORK

Seventy-nine grams of crude riboflavin, 95 per cent pure, was dissolved in 2500 ml. of 0.1 N sodium hydroxide. The solution was filtered with addition of a filter aid and the filter cake washed with water. The filtrate and wash were diluted to 15,780 ml. with water, thus giving a concentration of 4.7 grams of reboflavin per liter. This alkaline solution was cooled to 10° C. and acidified with 2 N sulfuric acid to pH 4.0. Crystallization started quickly. The crystallizing solution was held at approximately 10° C. over night. The crystals were then removed on a suction funnel, washed with a little cold water and dried in a vacuum oven at 70° C. The dried material assayed 100 per cent riboflavin, was essentially free from ash and dissolved completely in water at a level of 1200 mg. per liter.

Claim 1, the only product claim in the patent, gives a good idea of the properties of type C riboflavin. The claim follows:

1. A new crystalline form of riboflavin, as described, characterized by the following properties: (a) refractive index parallel to the elongation of crystals of less than about 1538 and perpendicular to elongation of above 1.74, (b) negative sign of elongation, (c) extinction—varying from about 33° to 0° as measured from long edge of crystals, (d) strong pleochroism, (e) common twinning of crystals, (f) solubility in water of about 1200 mg. per liter at 25° C., (g) X-ray diffraction properties characterized by a pair of strong reflections nearly equal in intensity at about 12.2 and 10.8 Å., respectively, a group of unresolved reflections of medium intensities centered about 6.1 Å. and a pair of reflections at 3.38 and 3.26 Å., the 3.38 Å. reflection being about twice as strong as the 3.26 Å.

Rat No.	Beginning of Depletion Period Age	Beginning of Depletion Period Weight	Depletion Period	Daily Dose of Supplement	Duration of Assay	Body Weight During Assay Period (Gms) Initial	Final	Change
(SUPPLEMENT: U. S. P. RIBOFLAVIN REFERENCE STANDARD)	*days*	*gms.*	*days*	*micrograms*	*days*			
1	23	45	29	5	28	79	152	73
2	23	44	30	5	28	73	144	71
3	23	45	32	5	28	70	124	54
4	23	44	32	5	28	80	128	48
5	23	45	32	5	28	107	158	57
6	23	44	33	5	28	83	129	46
7	23	45	33	5	28	78	130	52
8	23	44	34	5	28	104	188	84
9	23	46	37	5	28	114	172	58
10	23	44	40	5	28	106	149	43
Average						89.4	147.4	57.0
(SUPPLEMENT: TYPE C RIBOFLAVIN)								
11	23	45	29	5	28	83	138	55
12	23	44	30	5	28	73	157	84
13	23	45	32	5	28	90	150	60
14	23	44	32	5	28	88	142	54
15	23	45	32	5	28	98	150	52
16	23	44	33	5	28	110	178	68
17	23	45	33	5	28	76	145	69
18	23	44	36	5	28	89	139	50
19	23	46	36	5	28	97	166	69
20	23	43	40	5	28	105	169	64
Average						90.0	153.4	62.5

RECENT PATENTS

2,596,969—**Merck—Fermentation Process for Producing Grisein.**

2,596,971,2—**A. E. Staley Mfg. Co. — Nutrient Compn. for preparation of Streptomycin.**

2,597,247,8—**Smith, Kline & French Labs. — N-substituted Amino-Ethanols.**

2,597,432—**Cutter Labs.—Acetyl Globin.**

2,597,445—**Wyeth, Inc.—N-Alkylamino-Methyl-Phenyl Propane.**

2,597,471—**Ayerst, McKenna & Harrison, Ltd.—Equilenin-3-Monosulfate.**

2,597,723—**Ayerst, McKenna & Harrison, Ltd.—Equilin-3-Monosulfate.**

2,598,103—**Eli Lilly & Co.—Riboflavin-Glyoxal Condensation Products.**

2,598,269—**Colgate-P-P—Recovery of Sterols.**

2,598,311—**Salvo Chemical Corp.—Manufacture of Vanillin.**

2,598,508—**Bristol Labs — Hexahydrobenzylamine Sale of Penicillin.**

2,598,530—**Merck—Enteric Coated Pyranisamine.**

2,598,559—**Research Corp.—Intermediates for Dehydrocorticosterone.**

2,598,652—**Les Laboratoires Francais de Chimiotherapie—Estradiol Derivative.**

2,598,659—**American Cyanamid—Preparation of Diagnostic Antigen.**

2,598,823—**A. P. J. O'Grady—Inhalant Socket.**

2,598,936—**G. D. Searle & Co.—Disubstituted Cyanoalkanoylureas and Thioureas.**

2,599,000,1—**Smith, Kline & French Labs.—N,N-Disubstituted-Beta-Haloalkylamines.**

2,599,007—**Ciba Pharmaceutical Products — 21-Halocholadienes.**

2,599,127—**Industrial and Commercial Detergents, England—Sterilizing Detergent Compositions.**

2,599,140—**Refining, Unincorporated—Iodine Detergent.**

2,599,291—**Hoffmann-La Roche—Carbanylbenzene Stibonic Acids.**

2,599,364,5—**Hoffmann-La Roche—Piperidines.**

2,599,401—**Eli Lilly & Co.—Process of Obtaining Crystalline Penicillin Salts.**

2,599,445—**Rower Dental Mfg. Corp.—Cavity Lining and Pulp Capping Dental Preparation.**

2,599,471—**Ciba Pharmaceutical Products—Octahydro-Phenanthrene Carboxylic Acid Esters.**

2,599,497—**J. R. Geigy—Basic Stilbenes.**

2,599,564—**Hoffmann-La Roche—Esters of Polygalacturonic acid Methylglycoside, Blood anticoagulants.**

(*Continued on page 408*)

Animal Health

Value of Built-Up Litter

An item in Louisiana State University's *Agricultural Notes* (June 9, 1952) stresses that an important feature of built-up litter is that it is kept in good condition, dry and loose, by stirring and when necessary by the addition of superphosphate. Built-up litter is of nutritive value to broilers and to hens, as it contains the so-called animal protein factor or vitamin B_{12}. In recent tests with broilers at the L. S. U. Experiment Station chicks grown on built-up litter weighed on the average 0.3 pound more at eight weeks of age than did chicks of the same breed and age that were grown on the same diet but on "new" litter.

ECP for Poorly Breeding Chinchillas

In *Veterinary Medicine* (47:212, 1952), P. M. Newberne points out that slow breeding and nonbreeding is of growing concern to the chinchilla industry and indirectly to veterinarians. Much of the trouble may be attributed to failure of estrum, due in part to nonfunctioning and cystic ovaries or retained corpus luteum.

To remedy this condition he gave single injections of estradiol cyclopentylate (ECP). This hormone preparation induced estrum in 50 of 66 chinchillas with conception and littering in 28. There were 12 conceptions on heat cycle induced by ECP; 16 conceptions occurred in period following estrum produced by treatment. Two-tenths mg. appears to be the best dosage for the chinchilla; 0.1 mg. did not appear to produce maximum estrum and 0.3 mg. caused the animals to remain in estrum an excessive length of time.

Ammonium Lactate for Ketosis

Citing work done in the Netherlands, R. R. Dejkstra (*Vet. Med.* 47:162, 1952) observes that the European studies show that ammonium lactate has given as good results as any other agent in the treatment of ketosis in cattle. Admittedly, it is not effective in all cases, but in general, it has been used with good results. Twice daily, the affected animal is drenched with a solution of 4 ounces of commercial ammonium lactate dissolved in a pint of water. Treatment is continued for at least five days; only rarely a few days longer. Whenever the blood sugar level drops as low as 20 mg./per cent the animal is also given one hypodermic injection of from 500 to 1,000 cc. of 20 per cent dextrose solution during the first day of treatment. The theory supporting ammonium lactate treatment is that it improves the functioning of the liver with regard to the oxidation of ketone bodies.

Vitamin D Deficiency in Calves

According to G. C. Wallace (*J. Am. Vet. Med. Assoc.* 120:392, 1952) there is considerable evidence to indicate that there is widespread vitamin D deficiency among farm-raised calves. In addition to rickets as the major sign of vitamin D-deficiency, other gross symptoms include beading of the ribs, dragging of rear feet, standing with rear legs crossed, irritability, and tetany. Biochemical effects include a reduction in the calcium and inorganic phosphorus of the blood plasma and in the total ash of the dry, fat-free bone.

Under farm conditions, borderline vitamin D deficiencies and multiple deficiencies undoubtedly occur more frequently than critical uncomplicated vitamin D deficiencies. This greatly increases the difficulty of diagnosis. Although borderline deficiencies may go virtually unnoticed, they can be responsible for appreciable losses in profits to the farmer

In discussing this aspect, Wallis notes that one of the most important economic effects of a vitamin D deficiency in calves from the standpoint of the livestock raiser is the decrease in the rate of growth. Another serious effect is the increase in feed required per 100 pound of gain. In one experiment with calves 2 weeks to 34 weeks of age, a control group receiving a ration low in vitamin D made an average daily gain of 1.11 pounds on an intake of 5.68 pounds of the grain ration per day. A similar group receiving supplemental vitamin D made an average daily gain of 2.04 pounds on 7.33 pounds of concentrates daily. Thus, the control group required 511 pounds of concentrates per 100 pounds of gain, while the vitamin D supplemented group required only 359 pounds—a saving of 152 pounds of concentrates for each 100 pounds of gain. The effect of such a feed saving on profits is obvious.

Fortunately, says Wallis, vitamin D therapy is neither expensive nor hazardous, so vitamin D deficiency as the sole or contributing cause of disturbances suggesting rickets may be easily checked and eliminated. The fortification of commercial and home-mixed calf feeds with vitamin D, to supplement the variable amounts of this factor available from sunshine and roughages, is widely recommended by nutrition authorities. By this means, inadequate vitamin D as a possible hazard to the production of rapid-growing, well-developed calves can be conveniently and economically eliminated. The cost is only a few cents per calf per year which is neglibile when compared with potential benefits. Customary recommendations usually provide from 1,000 to 4,000 U.S.P. units of vitamin D per pound of calf starter, calf meal, or growing ration.

Therapeutic doses several times the usual preventive dose may be given calves showing critical symptoms of vitamin D deficiency. Specific information is not available, but general information indicates that doeses 100 or more times the usual daily requirement would be necessary to bring about symptoms of toxicity.

Experimental Vitamin A Deficiency in Pigs

The results of clinical studies on avitaminosis A in young growing pigs has been reported by J. F. Hentges, Jr., R. H. Grummer, P. H. Phillips, G. Bohstedt and D. K. Sorensen (*J. Am. Vet. Med. Assoc.* 120:213, 1952). They observed that the average blood plasma level of vitamin A in 91 apparently normal young pigs was 23.2 γ/100 ml. of plasma.

In the experimental work, they found

a direct relationship of low blood plasma vitamin A levels with depleted liver reserves of vitamin A. A definite relationship did not exist between plasma and liver levels of vitamin A when the plasma levels were within the normal range. Increased cerebrospinal fluid pressures were associated with low blood plasma levels of vitamin A. Night blindness occurred only when all measureable vitamin A reserves were exhausted. No direct effect of the vitamin A deficiency upon appetite or rate of gain was observed.

Neomycin in Veterinary Practice

During the past two years, J. L. Davidson (*Vet. Med.* 47:239, 1952) has been using the antibiotic, neomycin sulfate in veterinary practice in the treatment of many skin, ear, and eye infections with remarkable success. The preparations used are an ointment, containing 5 mg. neomycin sulfate per Gm. both as a general surgical ointment and an ophthalmic ointment, and an aqueous solution. These preparations have been given to over 300 animal patients suffering a variety of clinical abnormalities. Many of these had been treated with other medicaments and were refractory but did respond to this therapy. The ointment was employed initially for the treatment of otitis externa which had not responded to other forms of therapy, particularly cases that were caused or complicated by Pseudomonas organisms. These Gram-negative bacteria have proved more or less refractory to other antibiotic agents. The results with the ointment have been unusually good. In several types of dermatitis in both small and large animals, topical application of this antibiotic has proved effective, especially whenever pyogenic organisms were involved. Ophthalmic onitment is recommended for the treatment of keratoconjunctivitis, ulcers of the cornea, corneal opacities, and in acute pink eye of cattle.

No evidence of irritation was noted following application to any of the animal patients and no instances of sensitivity were recorded.

Pig Growth Response to Antibiotics

The aim of the experiments carried out by D. E. Becker, S. W. Terrill, D. D. Ullrey and R. J. Meade (*Antibiot. & Chemother.* 2:259, 1952) was to compare some antibiotics, including oral and parenteral administration of procaine penicillin, for their ability to stimulate the rate of gain in swine. In their work, an all-plant diet adequately supplemented with minerals and vitamins was group-fed to pigs from weaning to 100 pounds in drylot. Additions of aureomycin hydrochloride, neomycin, procaine penicillin, and chloramphenicol were made at 5 mg. per pound of feed. Aureomycin hydrochloride and procaine penicillin were of equal activity and stimulated a statistically significant increase in rate of gain over the control group. Neomycin and chloramphenicol produced only a slight increase in growth rate.

The intramuscular injection of an aqueous suspension of procaine penicillin G at the rate of 200,000 units on alternate days failed to influence the rate of gain or feed efficiency of pigs fed a practical diet containing animal by-products. However, the injection of a similar quantity of procaine penicillin G suspended in sesame oil containing 2 per cent aluminum monostearate gave a statistically significant increment in rate of gain. There were no additive effects of a dietary and a parenteral source of procaine penicillin for the pig. Supplementation with procaine penicillin at 5 mg. per pound yielded a greater growth response with the all-plant diet than with the diet-containing ingredients of animal sources.

Vitamin B_{12} in the Hen's Diet

Using New Hampshire pullets, half of which were raised on rations whose supplemental protein was derived from herring fishmeal, and the other half raised on soybean oil meal rations, a study has been made by L. R. Berg, G. E. Bearse, J. McGinnis and C. F. McClary (*Poultry Sci.* 31:488, 1952) of the effect of vitamin B_{12} on the requirement of protein by laying birds. Rations containing 15, 13 and 11 per cent all-vegetable protein were compared with and without 3 mcg. of added vitamin B_{12} per 100 Gm. of ration, the birds being maintained on litter changed weekly. They observed that vitamin B_{12} enhanced the utilization of low protein (13 and 11 per cent) rations by laying birds. This was manifested by: (a) decreased linear reduction in rate of lay as the protein level decreased; (b) retardation in loss in body weight with 13 and 11 per cent protein rations; (c) a marked per cent decrease in feather picking, particularly at the 11 per cent protein level. Wheat straw litter changed at weekly intervals under conditions of the experiment provided sufficient vitamin B_{12} to maintain more than 70 per cent hatchability of fertile eggs for six 28-day periods.

The investigators also found that the level of protein in the ration affected rate of lay, loss in body weight, and extent of feather picking. It did not affect hatchability, egg weight, or quality of egg shells produced. Birds raised on a soybean oil meal growing ration laid fewer eggs than those raised on herring fishmeal rations. The eggs produced by the birds raised on a soybean oil meal ration hatched at a lower rate than those laid by hens raised on a herring fishmeal ration. The difference in rate of hatchability decreased as the experiment progressed, indicating the presence of a factor in fishmeal, other than vitamin B_{12}, which is stored by the bird and necessary for egg production.

Aureomycin vs Anaplasmosis Carriers

Anaplasmosis, say L. E. Foote and M. Wulf (*North Am. Vet.* 33:406, 1952) is one of the most important diseases of the bovine. This malady is becoming more prevalent in areas where it is already established and is continuously being disseminated to areas where it previously has been nonexistent. The transferring of cattle (anaplasmosis carriers) to areas which have been free of anaplasmosis accounts for the spread of this disease. The bovine that recovers from an attack of anaplasmosis remains a carrier of the etiologic agent. Such an animal serves as a reservoir of the disease. In brief, the carrier animal is the only reason anaplasmosis is perpetuated.

Although earlier investigations had shown that aureomycin hydrochloride, administered intravenously, in recommended dosages, was not effective in anaplasmosis. However, it was found that this antibiotic did have value as a prophylactic against anaplasmosis. Because of this finding, the Foote and Wulf decided to use aureomycin hydrochloride in an attempt to destroy anaplasmosis carrier infection. As a result of this work it was concluded that aureomycin hydrochloride is the only drug to date that has destroyed anaplasmosis carrier infection. Anaplasmosis carrier infection was destroyed in three cows. One was treated with the antibiotic when affected with the peracute form of the disease. The other two had been "carriers" of the malady for four years and five months, respectively.

Perfumer's Shelf

Agar Oil

The manufacture of agar attars, say Sadgopol and B. S. Varma (*Soap, Perf. & Cosmetics* 25:169, 1952) is an ancient and still profitable industry in India. The wood from which the valuable perfume is obtained is the scented wood of *Aquilaria agallocha* Roxb., a large evergreen tree, distributed only on the north-eastern border districts of India, particularly in the hill forests of Khasia, Garo, Naga, Cachar and Sylhet. Locally, the tree is known as *Sasi*. Sound wood from the green tree exhibits no odor. Agarwood, which is odoriferous, consists of irregular patches of dark streaks, highly impregnated with an oleoresin due to a certain fungus infestation, and is found in the interior of comparatively old and mature trees. On account of the resinous deposition, such patches of wood become heavier than water and are known as *Agar* or *Aguru*. Agar is sold on the market in different forms such as Agar, Agarbatti, Agardhup, Agar-attar (or agar oil).

For ages, agar oil or agar attar has been obtained by distilling the chips of Agar and Dhum by the wet process. To modernize and improve the method, intensive experiments have been carried out in the Forest Research Institute of India, to study the conditions favoring an economic recovery of the oil from agarwood. It was found that the wood contains a very viscous and heavy oil, which does not volatilize easily by ordinary steam treatment. Superheated steam under high pressure extracts the oil but the oil loses its agar odor. In the circumstances, an alcoholic extract of oil, resin, etc., was prepared, from which the alcohol was removed by direct heat, leaving the oil, resin and other impurities. A "concrete" was made from this extract, treating the latter with mild alkali solution and then macerating with sulfuric ether. But again the "concrete" was found devoid of the pleasant agar odor, which is naturally very faint. These findings are in conformity with the results obtained previously in this laboratory. These laboratory experiments indicate that it is much better to distill the oil with water vapors by boiling the wood powder in water or its alcoholic extract than to steam it under pressure. Details of the improved process are provided by Sadgopoe and Varma. They state that agar oil prepared by the new method has a typically balsamic odor smoothly imposed on a woody background. Its high fixative value and exotic character should make it an important addition to the list of Indian essential oils of marked odor appeal. Leading essntial oil chemists and manufacturing houses in the U. K. and U. S. A., to whom samples of this oil were sent for opinion, have all appreciated it for its characteristic balsamic odor and high fixative properties. These samples have resulted in pressing enquiries both from India and abroad for arrangements to be made for regular and commercial supplies of this important oil.

Ultraviolet Spectrophotometric Study of Eugenol and Isoeugenol

It is pointed out by V.C. Vespe and D. F. Boltz (*Anal. Chem.* 24:664, 1952) that engenol, 1-hydroxy-2-methoxy-4-allylbenzene, and isoeugenol, 1-hydroxy-2-methoxy-4-propenylbenzene, are two constituents found in many essential oils and synthetics. The purpose of their investigation was to compare the ultraviolet absorption spectra of these isomers and to explore the possibility of a simultaneous ultraviolet spectrophotometric determination of these two constituents in synthetic mixtures. A survey of the literature showed that the spectrophotometric method had not been applied to this problem although the ultraviolet absorption spectra of *cis*- and *trans*-isoeugenol and eugenol have been determined. It was found that eugenol and isoeugenol have characteristic ultraviolet absorption spectra amenable to the spectrophotometric analysis of a two-component system. The optimum wave lengths for absorbency measurements and molar absorbency indexes were determined. The double bond in conjugation with the benzene ring in the case of isoeugenol resulted in the existence of an absorbancy maximum at a lower wave length than for eugenol and a much larger molar absorbancy index. Simultaneous spectrophotometric determination of eugenol and isoeugenol was possible in solutions in which the eugenol-isoeugenol ratio varied from about 0.5 to 50, concentration of eugenol being 10^{-4} to 10^{-5} molar.

Chromatographic Analysis of Terpenes

The conventional methods of separation of the components of volatile oils, say K. C. Varma, J. B. Burt and A. E. Schwartung (*J. A. Ph. A.*, Scient. Ed. 41:318, 1952) are not satisfactory in all cases. Distillation methods are occasionally inapplicable to the separation and purification of small quantities, and the effect of heat is generally detrimental to the terpenes. The chromatographic method has been applied as a technique in the separation of a few terpenes. Their study of the chromatographic properties of terpenes was undertaken to provide a method which might have application to volatile oil analysis and to determine the efficacy of other fractionation procedures.

A detailed study of various adsorbent or partition agents and various solvent combinations was undertaken to provide suitable separating combinations. Alumina, silica gel, Florex, Norit-A, adsorptive magnesia, calcium hydroxide, and X-202 were each used in combination with solutions of various terpenes in absolute alcohol, benzene, chloroform, and petroleum ether. The data derived from these experiments demonstrated that absolute alcohol-Norit-A and petroleum ether-silica gel were the better combinations. The combination of alcohol and Norit-A was used because of the high boiling point and low refractive index of alcohol. Silica gel-chloroform was found to be best adapted to the analysis of thymol and carvacrol mixtures.

Using these materials, the procedures of frontal analysis, elution analysis, and displacement analysis have been applied to several terpenes and terpene mixtures.

PROBLEMS AND GOOD WILL....

WE LIKE the customer who comes to us and says frankly: "We've got a problem. . . . maybe you can help us." That customer affords us considerably more opportunity to render a measurable service than does the buyer who knows precisely what he needs and asks merely that we take his order and deliver the goods. In most cases we *can* assist the customer with his problems, be they perfume, flavor or technical, and this inevitably leads to a closer and more helpful relationship. . . . a surer understanding of his needs and a better comprehension of what we and our laboratories can do to improve his product and promote his interests. Such advantages are mutually worthwhile. But from a strictly selfish point of view, the customer's request for assistance enables us to build a measure of good will that would—under ordinary conditions—take years to cultivate. So, we do like the customer who, with confidence, accepts our aid in solving any of the problems of taste or smell that may confront him. We hope, of course, that he, too, eventually, will come to know his exact requirements so well that to serve him properly will be a mere matter of taking his orders and delivering the goods—dependable, carefully selected, rigidly controlled, meticulously packaged FRITZSCHE goods!

FRITZSCHE BROTHERS, Inc.

IF we seem overly fussy about the small details of manufacture, production and control, it is because long experience has convincingly shown that this aim for perfection, even in little things, is the one added ingredient that tends to make FRITZSCHE materials consistently superior and more dependable.

CREATORS of MADE-TO-ORDER FRAGRANCES for PERFUMES, TOILETRIES and COSMETICS

•

ODORANTS and DEODORANTS for INDUSTRIAL and TECHNICAL USE

•

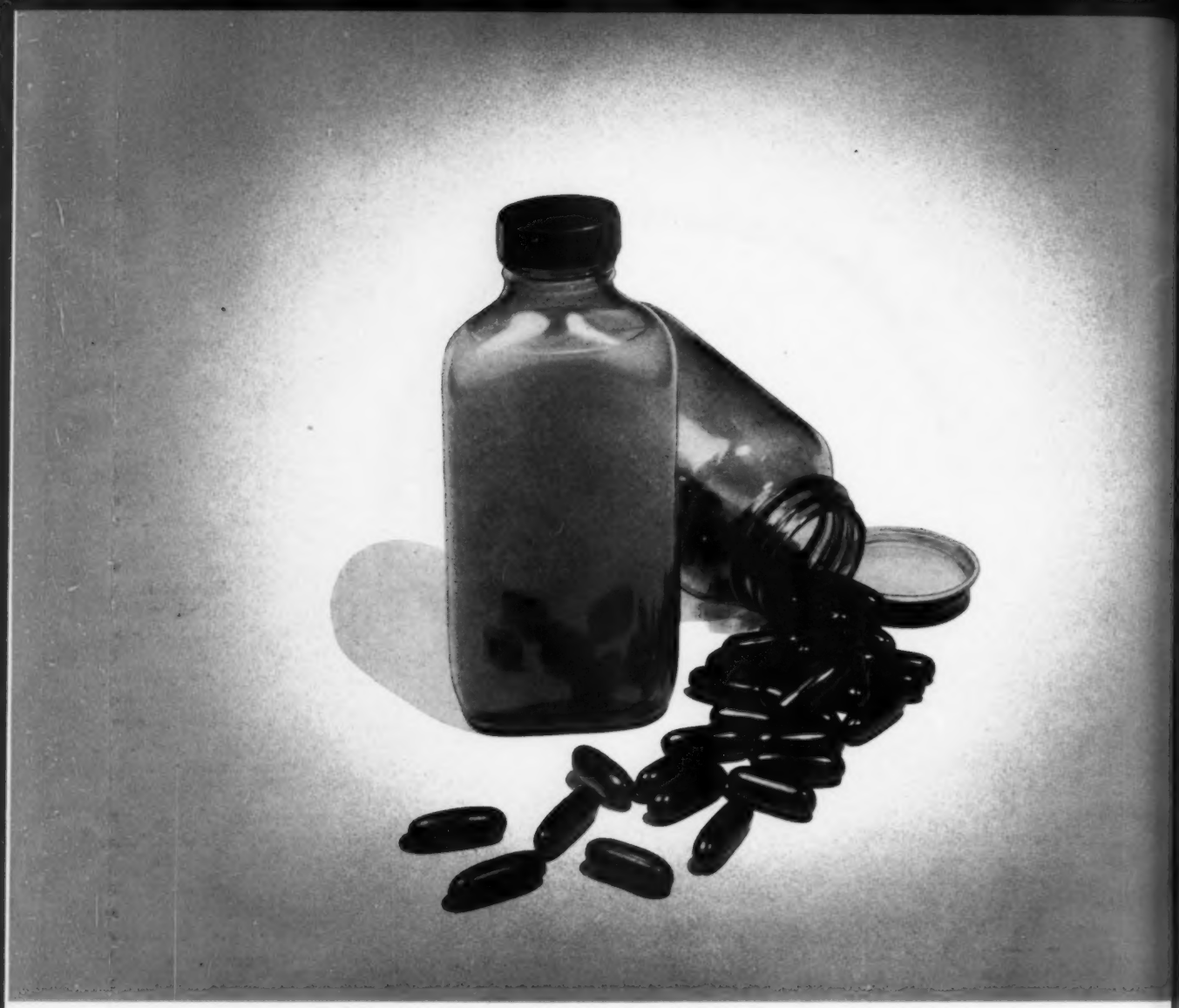
SUPPLIERS of AROMATIC CHEMICALS, BASIC PERFUME and FLAVOR RAW MATERIALS

•

FRITZSCHE *Established* 1871 *Brothers, Inc.*

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES *and* *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, Cleveland, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, *St. Louis, Missouri, *Toronto, Canada and *Mexico, D. F.* FACTORY: *Clifton, N. J.*



HIDING DISTASTEFUL FLAVOR....

The faintly flavored capsule provides one method of administering a distasteful dose and avoiding its contact with the patient's rebellious taste buds. But unpleasant medicinal flavors are not always so easily hidden, as for example, emulsions of certain tonics. Special skill in flavor blending to mask the taste is sometimes the manufacturer's only alternative. We have that special skill within our organization and it is yours—the pharmaceutical manufacturer's—if you will but take us into your confidence and let us carefully study your problem *before* introducing your new product. Modern flavoring techniques provide a safe, sure approach to the production of more palatable medicinal products. We invite a private consultation concerning yours.

FRITZSCHE *Established* 1871
Brothers, Inc.

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES *and* °STOCKS: *Atlanta, Georgia, Boston, Massachusetts, °Chicago, Illinois, Cincinnati, Ohio, Cleveland, Ohio, °Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California, °St. Louis, Missouri, °Toronto, Canada and °Mexico, D. F.* FACTORY: *Clifton, N. J.*

The results indicate that separations are achieved. In binary mixtures, one component is separated in small quantities before the mixture appears in the eluate. Frontal analysis appears to be the better method, among the methods and conditions utilized in these experiments, for the separation of terpenes. The method appears to be most effective in the resolution of mixtures of two terpenes. Varma and his associates observed that solvents other than those used in this work are applicable to the separation of terpenes. For example, petroleum ether was found to be very useful in the separation of menthol and menthone, but qualitative analysis of the eluate was difficult.

Indian Oil of Spearmint

In a discussion on oil of spearmint, with particular reference to oils of Indian origin, B. N. Gutpa, D. R. Dhingra and G. N. Gutpa (*Soap, Perf. & Cosmetics* 25:279, 1952) point out that spearmint comprises several varieties of *Mentha spicata* and *mentha virides* L. It is called *Pudinah* in Hindi, Bengali, Marathi, Guzrati, Sindhi and Telugu. The plant is cultivated throughout India. Its leaves are valued in medicine on account of their stimulant and carminative properties. They are also used in fever, colic pain and bronchitis. Spearmint oil is used for the flavoring of chewing gums, tooth pastes, confectionery and so forth. It is cultivated in England, Russia, Germany, Australia and the U. S. A.

From an experimental planting of spearmint, the yield of oil was about 0.25 per cent. From this it was estimated that the yield of oil per acre per year (assuming two cuttings per year) would be about 29 pounds. Two samples of the oil were distilled. They were transparent, with some greenish or yellowish tinge and had the characteristic spearmint-like odor. The physico-chemical constants of these oils, determined in the usual manner, are given in the following table:

	1	2
Specific gravity at 30°C.	**0.9252**	**0.9271**
Refractive index at 30°C.	**1.4848**	**1.4850**
Optical rotation at 30°C.	**-57° 11'**	**-61° 4'**
Acid value	**1.17**	**1.18**
Saponification value	**28.76**	**28.54**
Sap. value after acetylation	**76.6**	**75.98**
Carvone content	**58.93**	**65.22**
Solubility in 80% alcohol	**Sol. in 1 vol. of 80% alcohol**	

It is pointed out that, from these data, the Indian spearmint oils satisfy the British Pharmacopoeia Codex specifications, except that their optical rotation is higher. The investigators note that these data also indicate that Indian spearmint oils are not inferior in carvone content to oils from other sources.

Bulgarian Oils of Turpentine and Wood

A report on oil of turpentine and oil of wood of Bulgarian origin has been made by D. Ivanov and C. Ivanov (*Compt. read. acad. bulgare Sci.* 3:17, 1950 through *Chem. Abstr.* 46:5865, 1952). They found that turpentine from *Pinus ingricans* has the following properties:

Specific gravity	**0.8635**
Index of refraction	**1.4706**
Specific rotation	**-20.96°**

The turpentine started to boil at 157°C. and 90 per cent of its weight distilled before reaching 163°C. It contained 52.94 per cent of *l-alpha*-pinene, 37.95 per cent of *l*-beta-pinene, 5.73 per cent of dipentene and *l*-limonene and 3.33 per cent of residue. This oil did not differ materially from *Pinus sylvestris.*

Oil of Bulgarian wood, derived principally from stumps of *P. Sylvestris* had the following characteristics:

Specific gravity	**0.8589**
Index of refraction	**1.4722**
Specific rotation	**-15.95**

The oil started to boil at 157 to 158°C. and 60 per cent distilled below 163°C.

Antioxidant Properties of Spices

In the investigations made by J. R. Chipault, G. R. Mizuno, J. M. Hawkins and W. O. Lundberg (*Food Res.*, 17:46, 1952), the antioxidant properties of 32 spices were determined. All except one sample of ginger exhibited an antioxidant effect on prime steam lard. Rosemary and sage exhibited pronounced antioxidant effects. Citric acid exerts a synergistic effect with some spice fractions. The predominant antioxidants in sage and rosemary are soluble in aqueous alkali. These fractions did not contain the characteristic odor components of these spices.

Nonyl Esters and Nonylates in Perfumery

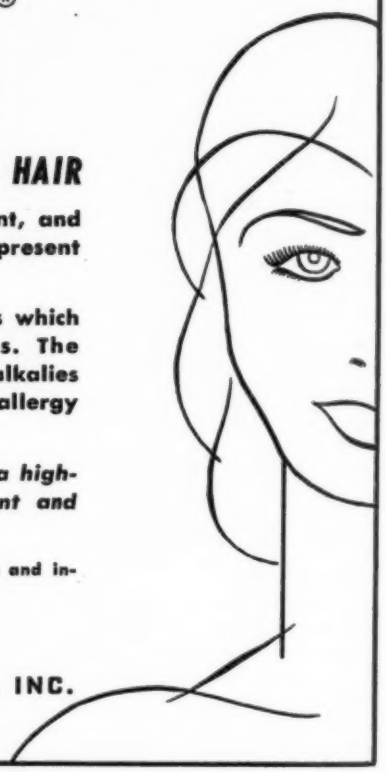
In another of his discussions on the raw materials of perfume compounding, C. Morel (*Soap, Perf. & Cosmetics* 25:512, 1952) provides data on the nonyl esters and nonylates on pelargonates. This is an interesting but scientifically somewhat obscure series. Only a few derivatives are commercially available, the perfumery usage is comparatively small and there is a limited distribution in nature. In trying to formulate views on the series of compounds as a whole, Morel finds that the esters of nonyl alcohol and the comparatively few nonylates largely approach the pattern observed with the heptyls and octyls, namely, a vinous floral fruitiness merging upon an oleose fungal or herbal background. However, instead of the octyl oiliness which is very obtrusive, this is replaced by a pleasant nutty shading, and some of these esters, when carefully handled, can contribute very largely to an enrichment (rather than a fortifying) of floral absolute simulations and tropical blossom compositions. Ethyl pelargonate is perhaps the most widely known ester, usage of which, owing to the similarity of the basic note, complements ethyl caprylate and kindred oenanthics, while nonyl anthranilate exhibits an outstanding powerful neroli cadence.

Considerable information on the properties of the nonyl esters and pelargonates is concisely presented by Morel in the following table:

Ester	*Mol. Wt.*	*B.P.*	*S.G.*	*R.I.*	*Basic Odor*
Nonyl formate	172	220	0.880	———	Iris-orange-rose
Methyl pelargonate	172	214	0.870	———	Vinous-orange
Nonyl acetate	186	212	0.870	1.4255	Fungal gardenia
Ethyl pelargonate	186	228	0.876	1.4215	Cognac fruity rose
Nonyl propionate	200	245	0.855	———	Vinous aldehyde
Propyl pelargonate	200	237	0.870	———	Yeasty melon
Nonyl butyrate	214	262	0.860	1.4270	Apricot-orange-rose
Butyl pelargonate	214	270	0.865	———	Similar, but milder
Nonyl valerianate	228	275	0.885	———	Hazelnut type
Amyl pelargonate	228	260	0.860	1.4300	Vinous apricot-rose
Nonyl caproate	242	255	0.890	———	Cognac type, nutty
Hexyl pelargonate	242	265	0.887	———	Similar to above.
Nonyl benzoate	248	315	0.965	———	Herbal orange
Benzyl pelargonate	248	315	0.962	———	Elemi oil type
Nonyl heptylate	256	300	0.875	———	Herbal orange-rose
Heptyl pelargonate	256	300	0.866	1.4360	Vinous orange-rose
Nonyl caprylate	270	315	0.870	———	Fungal orange-rose
Nonyl pelargonate	284	315	0.875	———	Aldehydic orange-rose

B.P. = Boiling point in °C. at normal pressure.
S.G. = Specific gravity at 15.5°/15.5°C.
R.I. = Refractive index at 20°C.

the AMERCHOLS®



NATURALLY SUPERIOR FOR THE SKIN & HAIR

Yes, the AMERCHOLS ARE NATURALLY different, and NATURALLY better for the skin and hair too. They represent cholesterol in its most active and efficient form.

The AMERCHOLS are Natural non-ionic surfactants which we isolate in purified form from animal tissues. The AMERCHOLS are stable in the presents of acids, alkalies and most drugs and we know of no case of an allergy due to an AMERCHOL.

For superior products try our AMERCHOL L-101. It it a highly effective liquid cholesterol emulsifier, emollient and penetrant.

AMERICAN CHOLESTEROL PRODUCTS INC. AMERCHOL

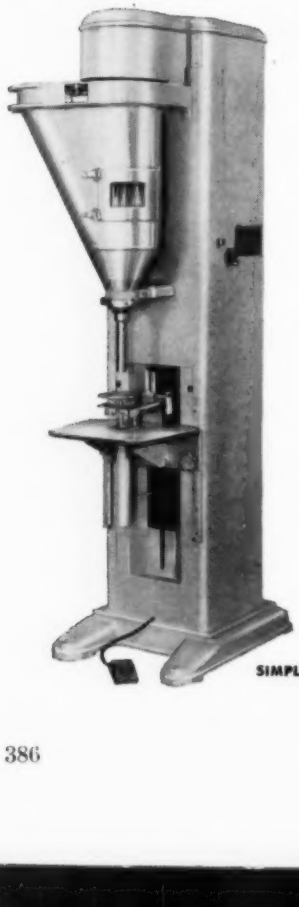
Our research laboratories are available to you for advice and information on formulation.

Write for technical literature.

AMERICAN CHOLESTEROL PRODUCTS, INC.
MILLTOWN • NEW JERSEY

S&S *Presents*—

the new "EG" FILLING MACHINE



This most advanced "EG" Universal Filler, designed and manufactured by Stokes and Smith Company, Philadelphia, Pa., features mechanical parts located above the filling station, and includes many innovations in design, amplifying all of the versatility of the well-known S & S G-1 Universal Filling Machines.

For use by volumetric filling—packing against pressure—or with combination auger and vacuum—or gross weighing.

- ***Parts located above filling station.***
  Keeps parts clean from dust and dirt; helps reduce cleaning maintenance, makes machine look neater.
- ***40% less working parts.***
  Totally enclosed planetary gears run constantly in oil, exceptionally quiet in operation. There are no cams or sprockets. Magnetic clutch is self-adjusting.
- ***Finger-tip changeover.***
  Simplified electric control panel is conveniently located near operator.
- ***Auger speed is adjustable from 500 to 1000 RPM.***
- ***Micrometer adjustment for speed and accuracy.***
- ***Pre-timed for greater efficiency.***
  Filling cycle can be timed to pace operator for more efficient production.
- ***Adjustable table*—the same augers can be used with varying heights of containers.**
- ***Adaptable single and multiple stations for automatic conveyor filling.***
- ***Compact size.***
  24" wide, 31" long, 7'7" high.

fmc

FOOD MACHINERY AND CHEMICAL CORP

STOKES & SMITH Co

4912 Summerdale Avenue
Philadelphia 24, Pa.

Pacific Coast
SIMPLEX PACKAGING MACHINERY, INC.
Oakland, California

Industry's Books

Biochemical Studies of Bacterial Viruses, by E. A. Evans, Jr., 68 pp., (1952), The University of Chicago Press, Cloth, $2.75.

This work is directed to the trained scientist and the medical man working in other fields than virology but who is interested in the latest developments in the field of bacteriological viruses. Based on a series of lectures given in May, 1951, at Iowa State College under the auspices of the Institute of Atomic Research, this book is an appraisal of the current status of biochemical research in the field of bacterial viruses. The material represents in great part a discussion of the results of important investigations carried out in the laboratories at the University of Chicago.

Therapy of Dermatologic Disorders, by Samuel M. Peck, B.S., M.D., Dermatologist to the Mount Sinai Hospital, New York, and George Klein, M.D., Associate Visiting Dermatologist, Morrisania City Hospital, New York, 383 pp., Illus., Lea & Febiger, Phila., $6.50.

Therapeutic Measures which have been proven of value in actual practice form the backbone of this excellent book. Because of this, it is a sound, usable guide for the beginner in dermatologic therapy, and for the physician unfamiliar with the treatment of a specific skin disease. Dermatologists will find the dermatologic pharmacopoeia one of the most valuable therapeutic aids available in book form. The standard drugs used in dermatologic therapy are emphasized, with stress on modern day treatment. The section includes a chapter on the removal of medical stains. The authors have included everything possible to guide the physician in making a correct diagnosis and to enable him to select and administer the proper treatment. The material is so arranged that he may classify quickly a skin eruption with which he is not familiar, at the time he sees the patient. This is done with the help of a useful Table of Differential Diagnosis. Skin diseases are grouped according to etiology, physiology and pathology. They include those due to infection, allergy, drug eruptions, trauma, circulatory disturbances, metabolic disorders and other influencing factors. A thorough discussion of the broad principles underlying dermatologic therapy is given, as well as detailed instructions for the treatment of nearly all important skin diseases. Chapters are included on the Diagnosis and Treatment of Veneral Diseases, by William Leifer, M.D., and on Physical Therapy in Dermatology.

The Scalp In Health and Disease, by Howard T. Behrman, A.B., M.D., Assistant Clinical Professor of Dermatology, New York University Post-Graduate Medical School, 566 pp., 312 Illustrations, (1952) The C. V. Mosby Co., St. Louis, $12.75.

This book approaches the problems of the hair and scalp from a fundamental anatomic and physiologic viewpoint. The initial chapter includes a study of every known function and activity of the component structure of the normal hair apparatus. Although voluminous references have been consulted and are available at the conclusion of the chapters, the material has been condensed and presented in a simple manner in order to avoid the distraction of names, references, and extraneous material veering off at a tangent. The subsequent chapters deal with all the known disorders and diseases of the scalp, including anomalies, alopecias, and infections, scalp involvement due to systemic disease, scalp involvement due to other skin diseases, malformations, new growths, and neurodermatoses. The subject matter includes discussions of the most recent advances concerning the endocrines and hair growth, scalp nutrition, and the daily hygiene of the hair and scalp. The various types of hair preparations in common use, such as shampoos, dyes, bleaches, hair and wave lotions, and their effects on the hair and scalp have also been thoroughly reviewed. Dermatologists are not the only persons who must be cognizant of the disorders besetting the hair and scalp. The astute barber, the beautician, and the entire cosmetic industry can ill afford to be ignorant of the basic hair and scalp problems of the people with whom they deal in their daily occupations. These individuals, if acquainted with the fundamental facts of the subject, would be in an admirable position to recognize a condition requiring medical care and so keep their clients from passing into the hands of the untrained and unscrupulous by referring them to the proper medical channels. By so doing they could render a valuable service by protecting the individual against the deceptive claims of many hair preparations on the market, which even the Federal Food, Drug and Cosmetic Act cannot completely control.

Dental Formulas And Aids to Dental Practice, by Louis I. Grossman, D.D.S. Dr. med. dent., Associate Professor of Oral Medicine, The Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania, 318 pp., Illus., (1952), Lea & Febiger, Phila., $5.00.

This work gives immediately helpful information on therapeutic, technical and chemical formulas which can be readily applied in daily dental practice. Dr. Grossman includes numerous original formulas as well as many that appear in print for the first time in this book. These are in addition to a number of formulas of dental materials which can be prepared at a fraction of the cost of commercial preparations, thus establishing a substantial saving for the user. They include the composition of topical anesthetic solutions, periodontal packs, impression materials, cold sterilizing solutions, tooth pastes and powders, mouth washes, skin creams, bleaching agents and others. In all, this ready reference handbook contains several hundred formulas and covers an exceptionally wide scope of dentistry. Profitable advice is given in the fields of operative dentistry, prosthetic dentistry, therapeutics, oral hygiene, caries control, endodontia, periodontia, oral surgery, roentgenology, diagnosis, etc. The author has wisely divided his subject to permit separate sections on each, with many formulas in every classification.

Greeff

SERVING THE CHEMICAL INDUSTRY SINCE 1880

For over 25 years, R. W. GREEFF & CO., INC. have been basic suppliers of American-made Chlorophyll.

We are serving as sales agent for Archer-Daniels-Midland Co., Minneapolis, Minnesota.

R. W. GREEFF & CO., INC.

10 ROCKEFELLER PLAZA, NEW YORK, N. Y.
TRIBUNE TOWER, CHICAGO, ILLINOIS

ALKALOIDS

GLUCOSIDES--- SOLID EXTRACTS
POWDERED EXTRACTS

Aconitine	Emetine	Physostigmine
Agaricin	Enhedrine	Picrotoxin
Arbutin	Esculin	Pilocarpine
Arecoline	Eserine	Podophyllin
Asparagin	Helenin	Powdered Extracts
Aspidospermine	Hometropine	Quassin
Atropine	Hydrastine	Rutin
Berberine	Hydrastinine	Sanguinarine
Brucine	Hyoscine	Scammony Resin
Cantharidin	Hyoscyamine	Solid Extracts
Colchicine	Jalap Resin	Sparteine
Digitalin	Lobeline	Strophanthin
Digitonin	Ouabain	Strychnine
Digitoxin	Pelletierine	Yohimbine

SPECIAL PRODUCTS PRODUCED ON REQUEST

INLAND, THE HOUSE OF ALKALOIDS
INLAND TIPTON, IND.
PRICE COMMENSURATE WITH QUALITY SINCE 1917

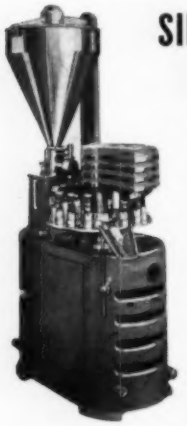
INLAND ALKALOID CO.

MANUFACTURING CHEMISTS

P. O. Box 88 TIPTON, INDIANA, U.S.A.

KALIX-DUPUY

AUTOMATIC TUBE FILLING, CLOSING & CRIMPING MACHINE



SIMPLICITY • LOWER PRICE
IMMEDIATE DELIVERY

- ★ 120 Gross Daily—One Operator.
- ★ 15 Minutes to Change Size. Very low Change cost.
- ★ Quickly Cleaned — No Hose — Fills Tubes, Jars or Cans.
- ★ Accurate Fill—No drip—No smearing—No air.
- ★ Handles all metal tubes ⅜" to 1½" diameter.
- ★ Two-fold—Three-fold or Quadruple fold.
- ★ No tube—no fill. Coding Jaws—Automatic Ejector.
- ★ Cap Tightener.
- ★ Stainless Steel Contact Parts.
- ★ Fully guaranteed—Replacement parts and service readily available.

REPRESENTATIVES IN
Buffalo, Philadelphia, St. Louis, Cincinnati, Chicago, Minneapolis, San Francisco, Los Angeles, Portland, Seattle, Salt Lake City—others pending

Write For Descriptive Folder

HARING EQUIPMENT Corp.

EXCLUSIVE KALIX-DUPUY DISTRIBUTOR

533 WEST BROADWAY, N. Y. 12 • GR 7-2217

SPECIAL OFFER

TRADE-MARK RECORD

for Perfumes, Cosmetics, Soaps

and

FIRST SUPPLEMENT to the Trade-Mark Record

at a special combination price of only $15 postpaid

With this Trade-Mark Record you can locate any particular trade-mark of these products and you can find out all the pertinent details of the mark—its scope, its goods, and its owner.

Over 40,000 trade-marks for easy checking.

Trade-Mark Record 768 pages
Supplement to the Record 215 pages

Both Books $15 postpaid

Book Department

DRUG & COSMETIC INDUSTRY

101 W. 31st St. New York 1, N. Y.

A Textbook Of Pharmacology, by William T. Salter, M.D., Professor of Pharmacology, Yale University School of Medicine, 1240 pp., Illus., W. B. Saunders Co., Phila., $15.

This is a personal book, recording the experiences and reflecting the choices of one who has spent many hours at the bedside of clinical patients as well as long nights in the laboratory. To one who always has in mind the course of human disease and the hope that it may be ameliorated, the vast accumulation of fundamental fact and theory in pharmacology must necessarily be confusing. There are so many side issues, blind alleys and petty experiments which seem to lead nowhere that the medical student and the physician alike are frequently amused and often annoyed with the frustration of pinning the pharmacologist down to concrete cases. In fact the world never knows quite what to expect from a self-styled pharmacologist because the range of that science is so broad. Such remote subjets as pest control, industrial hazards and murder are included in this one science. Accordingly the author has selected those things which he believes the medical student and the up-to-date practitioner should understand. This means simply that the examples which are cited in evidence of fundamental statements are selected from material which has a clinical bearing. Contents: Part I. General Principles of Pharmacology. Part II. Drug Action On Physiological Mechanisms. Section I. The Relief of Pain and Sensory Disturbances. Section II. General Anesthesia. Section III. Convulsions and Coma. Section IV. Drugs Acting on the Circulation. Section V. Endocrine and Vitamin Regulations. Section VI. The Autonomic Nervous System. Part III. The Application of Drugs in Clinical Medicine. Section VII. Drugs and Body Systems. Section VIII. Toxic Substances of Industrial and Homely Origin. Section IX. Chemotherapeutic and Chemoprophylactic Agents. Part IV. Toxicology.

Modern Chemical Processes, by the Editors of Industrial and Engineering Chemistry, Volume II, 299 pp., Illus., 8½" x 11½", Reinhold Publishing Corp., New York, Cloth $5.

This is the second volume in a series destined to prove a perpetual inventory of American chemical technology and the most valuable reference source of its kind available. Volume II contains the same factually authoritative pattern laid down by its predecessor. Twenty-four recently developed chemical processes, all now in operation on a full-scale production level, are described in the light of the following essential details: background, including commercial and technical history and the origin of present installation; description of plant installation, including design details of non-standard items; description of process and operation of plant; economics of process, including raw materials and processing cost breakdowns, plant investment and amortization; personnel; and future prospects, including technological improvement of the process and changes in the industrial picture. The practicing industrial chemist, the chemical engineer and the advanced student in these fields will find this volume, as well as Volume I and future volumes to be issued every two years, a reference work of the very lastest and most modern production methods in the chemical and process industries.

Practical Pharmacology, by J. H. Burn, Professor of Pharmacology, University of Oxford, Illustrations by E. M. Vaughan Williams, 72 pp., Charles C. Thomas, Publisher, Springfield, Ill. Cloth, $3.25.

This working companion to the Author's Lecture Notes represents the work of several people who have been jointly responsible for the present course in practical pharmacology at Oxford, in particular, Dr. Edith Bulbring and Mr. W. H. Ling. Fourteen of the exercises are on isolated tissues or preparations which in Britain do not require a Home Office licence to make them. The remainder can be given as lecture demonstrations.

Skin Therapeutics, Prescription and Preparation, by M. K. Polano, Head of the Dermatological Department, Municipal Hospital, The Hague (Netherlands), 276 pp., (1952), Elsevier Publishing Co., New York, Cloth, $6.50.

A systematic and scientific external therapy is still the most important tool in the treatment of skin diseases. Good modes of treatment in one country are often unknown in other countries, one of the reasons being the non-uniformity of nomenclature. Often the external therapy is unnecessarily expensive and imprecise through the prescription of proprietary ointments, the composition of which is unknown or only partly known. This book provides a system to facilitate the prescription of all medicaments necessary in skin therapy with the help of the official pharmacopoeias and formularies. Many new prescriptions for ointments are recommended in the light of the author's own experiments and careful clinical investigations. A number of tables facilitate comparison of the pharmacopoeias and formularies of the U. S. A., Great Britain, Belgium, France, Germany, Denmark, The Netherlands, Italy, Switzerland, Spain, and Sweden, and gives the equivalents of the dermatological medicaments in these countries.

Share Ownership In The United States, by Lewis H. Kimmel, 140 pp., paper bound, The Brookings Institution, Washington, $1.50.

There are approximately 6,500,000 individual owners of publicly held stock issues in the United States. They are members of 4,750,000 family units. One in every sixteen persons in the adult population owns shares in at least one stock issue, and there are one or more share owners in every tenth family. These are among the principal conclusions of this study. This study was prepared at the request of the New York Stockexchange and clearly shows that vast numbers of people have a direct stake in the ownership of business enterprise.

Allergic Pruritus, Its Dermatologic Management, by Stephan Epstein, M.D., Editor, 76 pp., Illus., (1952) Bruce Publishing Company, Saint Poul, Cloth, $2.50.

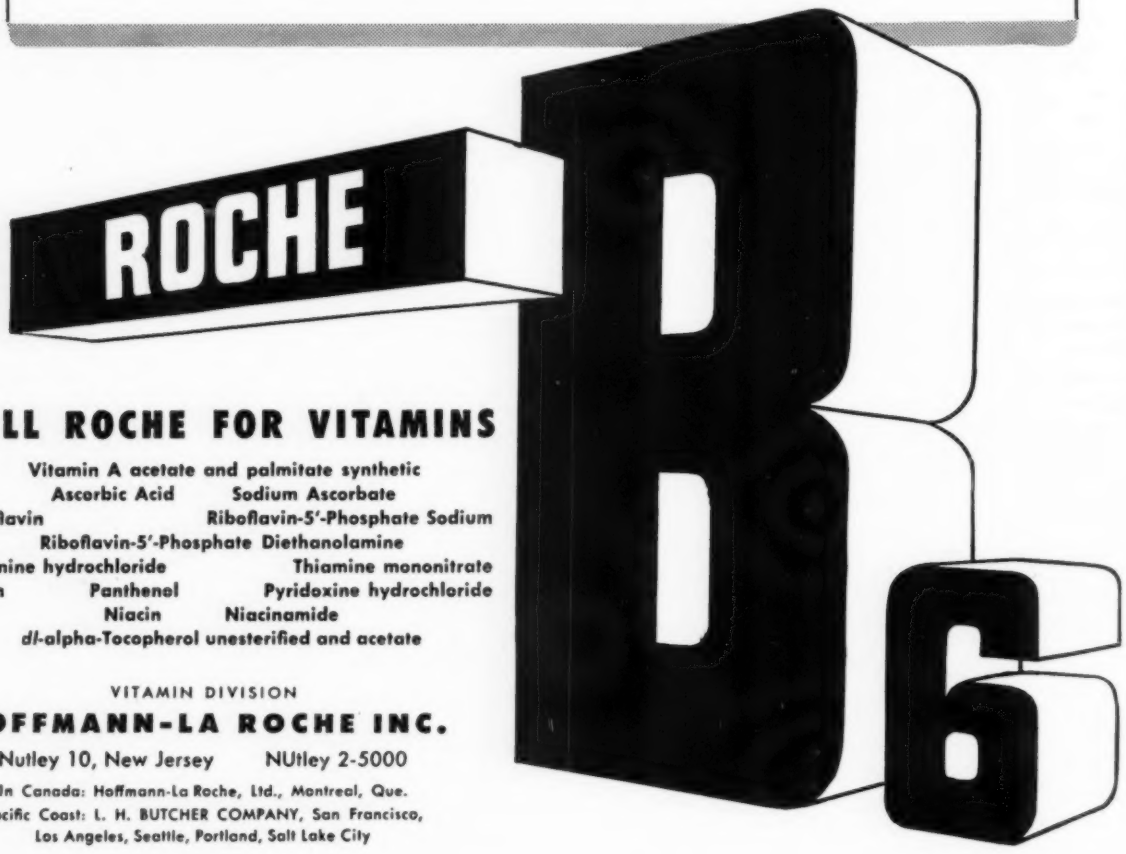
This volume is a collection of essays which were presented as a "Symposium on Itching Dermatoses" at the meeting of The American College of Allergists in St. Louis in 1950. The main purpose of the symposium was to present to the allergist and to the general practitioner topical and systemic dermatologic treatment. In addition to practical therapeutic recommendations, the symposium contains also diagnostic and etiologic contributions, which should help the understanding and management of allergic pruritus and dermatitis. It is introduced by a chapter on physiology and pharmacology of pruritus. The second essay is devoted to the discussion of different types of nonallergic pruritus, as a reminder that by no means all that itches is allergic. As over a year has passed since the symposium was presented, the contributions have been brought up to date as needed, and a chapter on the use of ACTH and cortisone in allergic dermatitis was added.

(Continued on page 412)

PURCHASING AGENT'S BUYING GUIDE

PYRIDOXINE HYDROCHLORIDE

Quality ▸	**Meets U.S.P. Reagent Specifications**
Source ▸	**HOFFMANN-LA ROCHE INC., VITAMIN DIVISION**
Supply ▸	**Manufactured by the tons**
Special qualities ▸	**Roche pyridoxine hydrochloride is of such high quality that it may be used for parenteral solutions.** ***The need for pyridoxine in human nutrition has been established.*** **(Report of the Council on Pharmacy, American Medical Association, published in J.A.M.A., Sept. 22, 1951, pg. 322.**
Packaging ▸	**Available in polyethylene bag in 1 kilo fibre drum; smaller quantities in amber screw cap bottles.**



CALL ROCHE FOR VITAMINS

Vitamin A acetate and palmitate synthetic
Ascorbic Acid **Sodium Ascorbate**
Riboflavin **Riboflavin-5'-Phosphate Sodium**
Riboflavin-5'-Phosphate Diethanolamine
Thiamine hydrochloride **Thiamine mononitrate**
Biotin **Panthenol** **Pyridoxine hydrochloride**
Niacin **Niacinamide**
***dl*-alpha-Tocopherol unesterified and acetate**

VITAMIN DIVISION
HOFFMANN-LA ROCHE INC.
Nutley 10, New Jersey NUtley 2-5000

In Canada: Hoffmann-La Roche, Ltd., Montreal, Que.
Pacific Coast: L. H. BUTCHER COMPANY, San Francisco, Los Angeles, Seattle, Portland, Salt Lake City

Abreast Of The Markets

Botanical and Essential Oil Markets Compared; Serious Shortages in Both Categories; Quicksilver Is Steady

Last month the markets displayed two entirely opposite trends, represented by the extraordinarily sluggish tone of the botanicals and the quite active atmosphere of the essential oils. In the botanical market, dealers stated that there was almost no buying taking place at all, while the essential-oil spokesmen indicated considerable activity, with business brisk, and the oils in good supply in many cases. A general tone of sluggishness did pervade the markets in general, however, including the chemical side, owing to the heat of August and the slowing down of plants here and there for vacation periods. As the fall approaches, and with cooler weather in prospect, an increase in activity is naturally anticipated.

The botanical market at the present time is greatly hampered by shortages, and it is entirely possible that a very critical period will suddenly develop unless remedial steps are taken beforehand. In the Middle East, such commodities as senna, colocynth, saffron, quince seed, tragacanth and gum arabic have been seriously hampered by hostilities in that area. Botanicals have become secondary to the economies of those territories in which uprisings must be quelled or prepared for from time to time. In the Mediterranean area it's a drought that has been reducing available replacements of orange peel, gentian root and green anise seed, for example. In the Far East, it's the same story of scarcity and difficult-to-obtain products. Rhubarb root, star anise, Chinese Cantharides and cassia buds are now just about impossible to replace because of embargoes and economic blockades.

To make the situation more critical, according to the botanical spokesman, manufacturers in the American market are not buying at the present time, even in face of the dwindling imports and botanical production. Inventories in many cases appear to be at the exhaust stage, for these manufacturers are delaying replacement purchasing as long as possible. This spokesman believes that when the consumers do decide to re-enter the market, they will be faced with large losses because the new replacement prices are so much higher than those in effect when they bought their latest replacements.

To add to the troubled situation, new producers have entered the botanical field, and in some cases, they are not closely acquainted with the various methods of preparing the roots, leaves and barks for consumption. Furthermore, some botanicals recently have appeared greatly adulterated with foreign matter made to look like the authentic item. The botanicals are of questionable quality, because, in an effort to cut costs, these new producers, often compromise on the grade and type they export.

Some shortages do exist in those essential oils which originate in countries behind the Iron Curtain, such as anise and cassia, both of which are virtually impossible to obtain at the present time. Rose oil is another item very difficult to find. In the August issue, in fact, *The Giraudanian* reports, "For the past two years, there has been a somewhat tighter control on imports from countries in the Soviet bloc, which has affected the importation of several essential oils . . . By far the most important of the natural oils imported from Russia and her satellites is rose oil . . . It is quite obvious that the restrictions on trade with the countries within the Soviet sphere of influence have affected the import of rose oil from this source (Russia and Bulgaria), with a reduction of more than 10,000 ounces from 1950 to 1951. There has, however, been an increase in imports of this oil from other countries which cannot completely offset the reductions from the original source." Accompanying this statement is the following table illustrating the decline of imports during this time of this important oil.

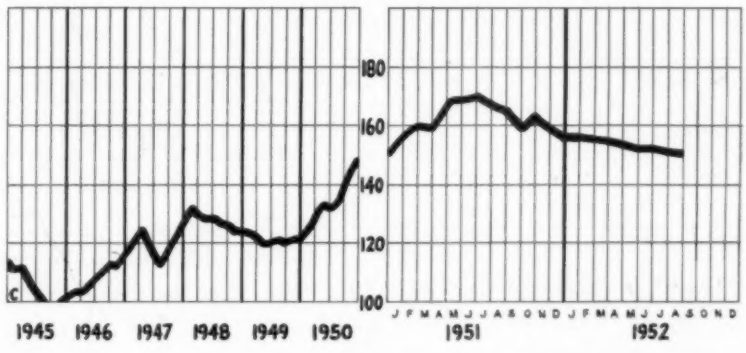
	1950	1951	1st quarter 1952
Russia & Bulgaria	24,692 ozs.	10,028	2,112
Other Countries	8,920 ozs.	11,823	2,129
Total	33,612 ozs.	21,851	4,241

Mercury Holding Firm

With the price of quicksilver remaining at about $187 a flask, several of the larger mines in this country are resuming operations under full schedules. Ordinarily, domestic mines are unable to meet foreign competition except in wartime when the government needs huge quantities for defense purposes. These mines

(*Continued on page 394*)

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



The cosmetic raw materials index dropped very slightly from 151.8 to 151.6. Balsam Peru was lower.

Prices quoted in this section were current on the first of this month.

Tablet coating

BY RONALD CLARKSON—TABLET CONSULTANT

At Last—A practical, authoritative textbook on Tablet Coating!

This is the answer to a world-wide request for a down-to-earth book on this highly specialized technique.

The author, Ronald Clarkson, an outstanding tablet consultant, is well known in this country and abroad for his contribution to technical literature on Tablet Manufacturing. Co-author of the text book *Manufacture of Compressed Tablets*, he has also presented papers on various phases of tablet manufacturing before the APMA production meetings.

Since entering the consulting field he has been a contributor to *Drug and Cosmetic Industry*.

In his capacity as a consultant the author has been supplying coating instructions to his clients in various parts of the world at a substantial fee. This confidential copyrighted treatise was entitled *The Fundamental Procedure for Coating Tablets* and forms the basis for this text.

The original treatise has been greatly expanded and here it is at a fraction of the original price!

A Valuable Aid to Everyone interested in coating tablets

- Production Managers
- Sales Managers
- Coaters (experienced and inexperienced)
- Development and Research Men
- Beginners
- Students

A Technical Book filled with Formulas for

- Subcoating Syrups
- Dusting Powders
- Colored Syrups
- Polishing Solutions
- Protective Coatings
- Coatings for Tropical Climates
- Enteric Coatings

In addition to the valuable formulas, complete directions for their preparation are given—even to such minute details as the temperatures at which they should be used.

Detailed instructions on how to reclaim spoiled tablets are outlined.

An entire chapter is devoted to installing a coating department—recommendations being given regarding the proper size and type of equipment, operating capacities, dust control and hot air systems—also how to lay out a complete coating department, including blueprint floor plan.

All extraneous matter has been omitted. This book deals 100% with the details of actual coating—how to do it and produce satisfactory results.

Here is the first book of its kind ever published. Complete, simple, and easy to follow instructions on what to *do* and what *not* to do. It will prove invaluable to you as an instructive text, and as a ready reference.

74 Pages **Illustrated** **15 Chapters**

Price $4 Postpaid

Book Department

DRUG & COSMETIC INDUSTRY

101 WEST 31ST ST. NEW YORK 1, NEW YORK

Ready For Immediate Shipment

Alcohol Market Appears Steady; Reports Indicate Further Reduction in Molasses Price; Mexican Vanilla Lower, Bourbons On Way Up

There was no change in the 55c price of alcohol during August, although there was some talk in the industry of a further decline which may occur in the months to come. This expected price reduction probably stems from the fact that manufacturers in general have been making concerted efforts to reduce their inventories, and in so doing, have cut down measurably on the alcohol consumption.

On the molasses side of the picture, there has been no rush to buy up this material, even though the Cubans did reduce the price to 12c a gallon f.o.b. Cuba. Some fermentation alcohol producers, moreover, have purposely delayed their purchases, since they consider the price still too high. A late development, however, during the first week of September, strongly suggested that molasses may soon drop to 7c a gallon f.o.b. Cuba. If this does occur, the entire complexion of the market will change.

The alcohol outlook at the present time points to a well stocked market, with ample supplies available at very favorable prices from Germany and France, which would come in handy if consumption should step ahead of the domestic production. Although major strikes in the industry had curtailed alcohol production very heavily in recent months, there was so much alcohol on hand at the time that the stoppage had little effect on the market as a whole.

Offsetting the reduced consumption of alcohol on the part of domestic consumers is the cancellation by the U. S. Government of its synthetic rubber program from butadiene, derived from alcohol. The U. S. is turning to butadiene (from petroleum) for its synthetic rubber, because this source is much cheaper. On September 1, in fact, it was reported that the government had halted its alcohol-derived synthetic rubber program altogether.

Because of these factors, and because of the tremendous stocks of molasses still in storage in Cuba, the alcohol market is hovering around the 55c-level, with a good chance, some say, of still lower prices to come.

Molasses Increasing as Feed Source

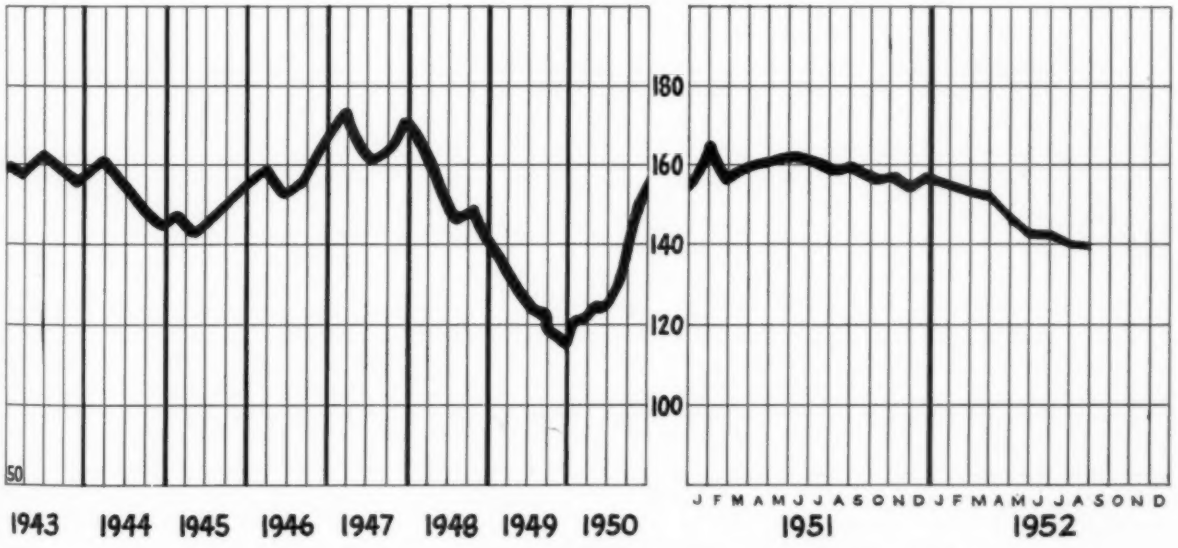
With the Cuban molasses production having passed 397,000,000 gallons by the first week of August, and the alcohol fermentation producers having showed annoyance at the current price by postponing purchases, it seems an opportune time to study the molasses potentials in the cattle feed industry. The Department of Agriculture reviewed the situation recently and came up with the conclusion that the use of molasses in feed has expanded considerably in the last few years concurrently as it has fallen off in the alcohol industry. Stating that about 200 million gallons of molasses have been used annually as feed in the last three years, the Agriculture Department concluded that the molasses price would closely control the amount used for feed, and furthermore, as the feed use increases in the future, the price of the raw material will fluctuate less and less.

Turning Point in Vanilla

Mexican vanilla beans dropped in price somewhat last month and, according to spokesmen in the trade, are now established at proper levels, having previously been too high in relation to the entire market. The Mexican cuts are now in the range between $2.75 and $3, and the whole beans range between $3.25 and $3.75. Tahiti beans are selling for $2.50, up to $2.75, and the Bourbon variety, by the end of August, were still in the vicinity of $2.75 to $3.25.

Just about a year ago, in our October, 1951, issue there appeared a feature article on vanilla, stating that a turning point had been reached, and that the price would from that time on pursue an upward course. While we were correct on the fact that the price had leveled off at the $3-mark, the upward movement failed to develop at that precise moment, and was postponed until August, 1952, for the price of the Bourbon beans is advancing slowly week by week. These beans in August, 1951, were established at $3; a year later, they ranged from $2.75 to $3.25. By averaging all the intervening monthly prices

50 Raw Materials—Weighted Price Index. 1926 = 100.



The price index of fifty commodities for August declined a trifle from 140.1 to 139.9.

August Price Changes

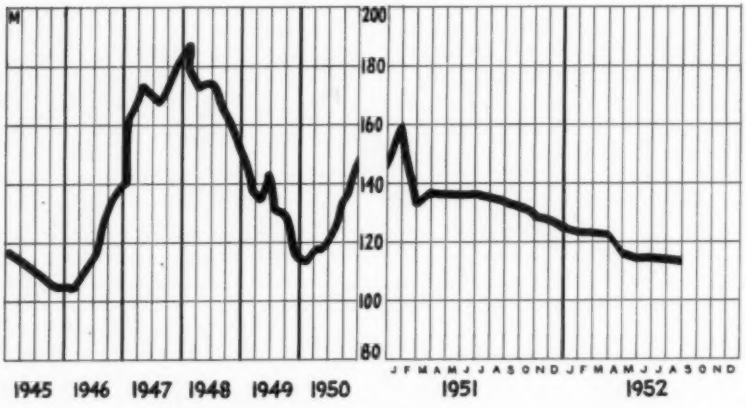
UP
Anise Oil, U.S.P. 30c
Ergot 50c
Mandarin Oil $1
Saffron Valencia $1
Wormseed Oil 75c

DOWN
Almond Oil Sweet 5c
Balsam Peru 5c
Ipecac Root 45c
Lime Oil, Distilled $1
Expressed 50c
Mercury $3
Pennyroyal Oil 75c
Peppermint Oil,
Natural 20c
Redistilled 20c
Petitgrain oil 5c
Pimento Leaf Oil 15c
Pine Needle Oil 50c
Sage Oil, Dalmatian 75c
Vanilla Beans, Mexican
Cuts 45c
Mexican Whole 75c

during the year just passed, the result figures out to $3, so the average price has remained static for the past twelve months.

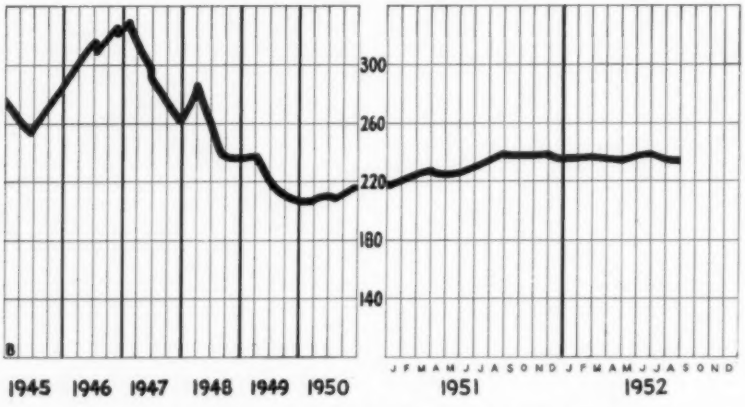
Importers state they have sent counter-bids to Madagascan sources, in an effort to purchase beans at prices in the current range. The foreign shippers do not even bother to answer the inquiries. Owing to a small crop of vanilla beans this year, the Bourbon vanilla growers are apparently saving the beans they have until the price climbs to a level more favorable to them, since they are anticipating a poor harvest. Furthermore, because many of the vanilla plantations have been neglected over the year, resulting from the low price of vanilla, crops will be small. This tight situaton will force the price up to a more attractive level for the planter. Importers feel there will be a Bourbon shortage for the next two or three years, since it will take that long for errant plantation workers to return to the vanilla vines, plant new ones, and restore the older ones.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index declined a little from 113.4 to 113.2. Mercury was lower.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index fell slightly from 234.1 to 233.9. Ergot was higher; ipecac root was lower.

Mercury Holding Firm

(*Continued from page 391*)

are coming into their own now, however, because of the Korean War, and because of the Government's intention to support those industries which are mining strategic materials.

This development has occurred in spite of the fact that the U. S. has imported much more metal this year than in 1951. The figure amounts to 20,870 flasks last year, which is about 9,000 flasks less than the 29,796 flasks imported for only six months (January to June) in 1952. Presumably, a large part of the imports are being diverted to the government stockpile.

Previous to 1952, the United States was getting most of its mercury from Spain, but today, the Bureau of Mines reports, Italy is accounting for more of the metal than Spain.

Senega Root Firmer

There was so little senega root being offered from the Northwestern part of the country that sources were expecting an increase in the spot price of the material. There were reports of a poor crop being the cause for the scarcity of material.

Theophylline Down 60c

Theophylline was reduced 60c a pound last month to the level of $4.40 a pound for a 100-pound drum and $4.57 a pound for a 25-pound drum. There has not been much interest in the item of late.

Cascara Bark May Change

So far, cascara bark has remained rather constant, as far as the spot price is concerned, but one dealer has indicated that prices may jump up in the future. It seems that the collectors are being paid very low wages in the country, a factor which may soon dissuade any additional prospective collectors from working in that particular category. If that should occur, the available supply of cascara will be reduced at a time when the demand will probably be much greater.

No Activity in Menthol

There is still very little interest in menthol, but this is expected to be reversed as the winter months draw closer. The Brazilian material ranged

between $6 and $6.70 toward the end of last month, with the Japanese menthol a little higher.

Papain Scarce

The African papain is on the scarce side, but that from Ceylon is reported to have been quoted at slightly lower shipping prices than had been in force previously. This item was quoted between $6.95 and $7.50 the first of this month.

Anise Oil Extremely Tight

With anise oil just about impossible to obtain from the Chinese source, the price of this item has gone up to $2.20 at the lower end of the range, and up to $2.70 on the upper end. There were still some small quantities available last month on spot, but these were very limited, and only a few dealers were in a position to offer any oil whatsoever.

Cassia Oil Firm Also

Cassia oil appeared to be in the same condition as anise, with only a small amount available on spot and no oil at all coming in from the source. Some houses appeared to be quoting the oil in the vicinity of $5, but the majority of them were selling what stocks they had at prices nearer $6.50.

Lemon Oil in Good Supply

With the summer season drawing to an end, the demand for the citrus oils has begun to taper off. This trend has not affected the prices in any way yet, for California lemon oil was last month still being quoted from $5.75 to $6, and American Orange oil, from $1.10 to $2.75.

There is a marked easing off in the lime oil market, for the distilled material toward the end of the month fell as much as $1 and is now quoted from $7 to $7.85, while the expressed oil is down 50c to the range between $7.50 and $7.75. Not only has the demand dropped in this oil, but the supply end of the oil has improved, due to the effect of the new-crop material.

Orange Oil Demand Reduced

The pressure has been taken off orange oil, now that the hot summer months have passed, with the result that stocks of the oil are now on the plentiful side. The higher-priced imported oils, ranging from $3.25 to $5.50 for the Italian and from $3.25 to $5.50 for the West Indian brand.

Citronella Oil Quiet

Citronella oil seemed to have hit its lowest point, and continued to be quoted in August in the range from 80c to $1.10 for the Ceylon oil and from 65c to $1.10 for the Java variety. Demand for this material has been quite steady during the past few months, and with the large shipments in from Formosa, there is plenty of material available to handle all needs in this country.

Clove Oil Hit Seriously

Although some sources report slight reductions in the prices of the clove buds from abroad, others say that the clove buds have gone up still further. There has been no relief at all in the clove-oil industry in this country. Distilling operations have been at a standstill in the U. S. for several months.

Clove bud oil is still being quoted from $7.50 to $8.50, but these prices are, for the most part, completely nominal, as there is no oil to be had.

Mandarin Oil at $7.50

Both the Italian and Brazilian mandarin oil were selling last month between $7.50 and $10, but there was very little need for the oil at that time. What orders there were could be met with no difficulty.

Geranium Oil Steady

There was plenty of geranium oil on hand last month; however, the prices failed to soften and remained in the range between $13.75 and $15 for both the African and Bourbon varieties.

Lemongrass Oil Plentiful

This oil was in very good supply in August, and the demand was on the lively side. It is too early yet to determine whether or not the granting of permission to use synthetic vitamin A in oleomargarine has increased the demand for this oil and its derivative, β-ionone. Prices of the oil ranged from $1.50 to $1.80.

Pennyroyal Oil at $2.25

Although there have been reports of an increase in the shipping costs of pennyroyal from Spain, this item dropped from $3 to $2.25 last month, according to one dealer, who stated that spot supplies were adequate, in the face of a very limited demand.

Peppermint Oil a Little Lower

Natural peppermint oil was being quoted in the range from $7.40 to $8, and the redistilled oil, from $7.80 to $8.50, representing a decline in each case of 20 cents.

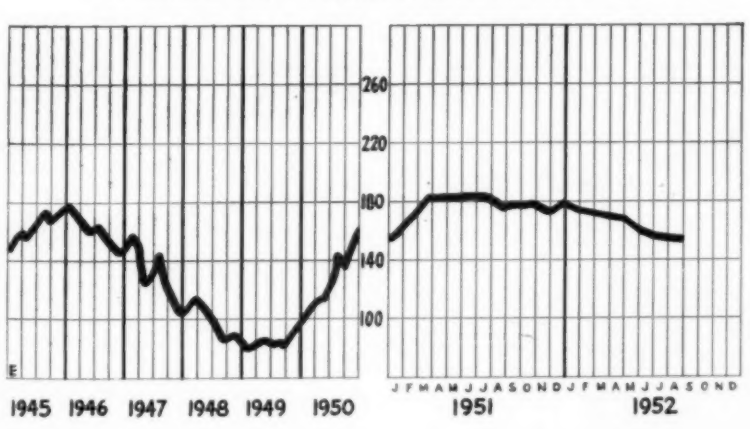
No Change in Patchouli

While there was no price change in patchouli oil last month, shipping prices are said to have been increased at the origin, a factor which will probably not affect the spot price for quite a while. There are ample stocks on hand in New York, and, with a low demand, replacements will not be necessary for a fairly long time, according to spokesmen.

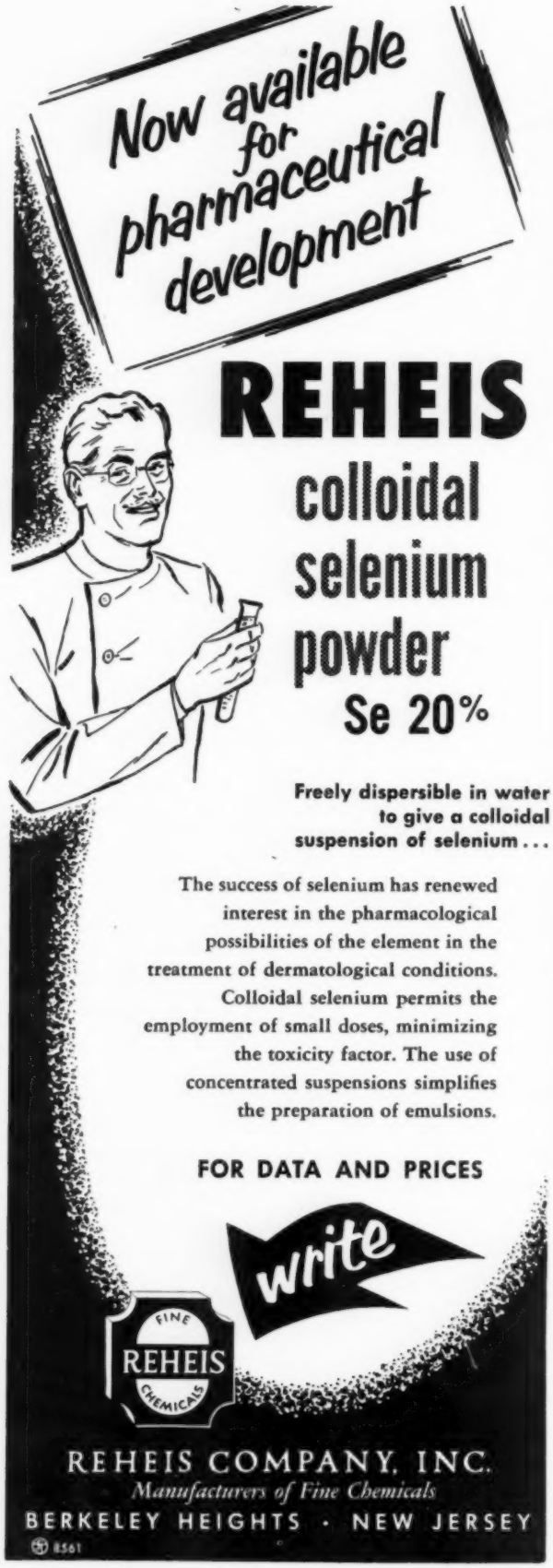
Wormseed Oil Feeling Pinch

Wormseed oil advanced 75 cents to the range between $9.25 and $10 as a result of the very firm situation which has developed. There is only a trickle of oil available on spot, and no offers have been received from sources at the origin. The only alternative is for dealers to await the new crop, which is still a long way off.

15 Essential Oils—Weighted Price Index. 1926 = 100



The essential oils index declined very slightly from 156.0 to 155.8
Anise oil was higher; lime and peppermint oils were lower.


Now available for pharmaceutical development
REHEIS
colloidal selenium powder
Se 20%
Freely dispersible in water to give a colloidal suspension of selenium . . .
The success of selenium has renewed interest in the pharmacological possibilities of the element in the treatment of dermatological conditions. Colloidal selenium permits the employment of small doses, minimizing the toxicity factor. The use of concentrated suspensions simplifies the preparation of emulsions.
FOR DATA AND PRICES
write
FINE REHEIS CHEMICALS
REHEIS COMPANY, INC.
Manufacturers of Fine Chemicals
BERKELEY HEIGHTS · NEW JERSEY
8561

Up to Date on Vitamin B_{12}

(Continued from page 313)

pharmaceutical standpoint, Macek and Feller[12] observed that the anhydrous solid may absorb about 12 per cent of moisture. The solid presents no unusual stability problem in the hydrated form and is also stable in dry triturations with mannitol, sodium chloride, and certain sugars. It is quantitatively adsorbed on talc. Crystalline vitamin B_{12} is stable at room temperature in sterile aqueous solutions or those containing small amounts of sodium chloride, freshly distilled phenol, or benzyl alcohol. On the basis of extensive tests, the vitamin was found to be compatible with other B vitamins (but not with vitamin C) and with some pharmaceutically useful solvents, such as ethyl alcohol, glycerine and propylene glycol.

The studies by Hartley, Stross and Strickey[13] led to the recommendation that the use of heat should be avoided in the sterilization of solutions of vitamin B_{12} for injection, and that the pH of the final solution should preferably be between 4.5 and 6.5. These workers feel that such solutions should be sterilized by filtration, with a bacteriostat being added if necessary. In this connection it may be noted that a method for stabilizing autoclaved vitamin B_{12} solutions, through the use of thiodipropionic acid, has been patented.[14]

Vitamin B_{12} is present in animal tissues, with liver and kidney as the richest sources, but it is absent from practically all plant sources. The vitamin is synthesized by *Streptomyces griseus* and various other microorganisms, and these have replaced liver as industrial sources.[4] Thus crystalline vitamin B_{12}, meeting the official U.S.P. requirements, is usually produced by fermentation, followed by a complex procedure of isolation and purification. Less refined products are also available as concentrates or extractives; the strength of such materials being expressed as the "activity equivalent" of vitamin B_{12}.

Improved methods for producing vitamin B_{12} are described in the patent literature[15,16,17] and new sources are constantly being sought. For example, the "slops" from streptomycin production was found to be high in vitamin B_{12} activity as were commercial condensed fish solubles.[18] More recently, activated sewage sludge has proved[12,20] to be a good source of the factor. Tests[21] with dairy microorganisms disclosed that propionic acid bacteria produced noticeable quantities of vitamin B_{12}.

Officially, crystalline vitamin B_{12} is assayed spectrophotometrically and a U.S.P. Cyancobalamin Reference Standard is available for this procedure. However, this method is not applicable to impure preparations, such as the fermentation extractives, or to vitamin mixtures. In such cases, a microbiological assay procedure is generally employed,[22] with *Lactobacillus lactis*,[23,24] *Lactobacillus leichmanni*,[25,26] or a mutant of *Escherichia coli*[27,28] as the test organism. A rat assay for vitamin B_{12} has also been used successfully.[18] Recently, Frost and

his colleagues[29] reported the use of this animal for assaying injectable liver extract for its vitamin B_{12} content. Procedures for the chemical determination of the substance are also being investigated.[30]

The human requirements for vitamin B_{12} are not known but the work of Dyhe and his associates[31] suggests that the normal needs are met by bacterial synthesis in the colon. Nonetheless they feel that some advantage is undoubtedly to be gained by supplementing this source with foodstuffs rich in vitamin B_{12}.

It is generally assumed that vitamin B_{12} is nontoxic even in amounts which, in view of its potency, might be considered large. Thus, according to N.N.R.,[32] animal experiments have shown no evidence of toxic effects, either local or systemic, from the oral or subcutaneous administration of crystalline vitamin B_{12}. It is also noted that no toxic reactions in man have been reported. Pertinent in this connection are the toxicity studies of Winter and Mushett.[33] They showed that extremely large quantities, going as high as 1600 mg. per kg., of crystalline vitamin B_{12} caused no toxic reactions in any of the animals tested. However, Traina's[34] experiments with mice showed that smaller doses of a fermentation concentrate of vitamin B_{12} were toxic to these animals.

Such concentrates have also been known[35] to cause undesired side-effects when injected intramuscularly into humans, but no reactions occurred when a crystalline preparation was used. Indicative is the experience of Young and his associates[36] with an anemic patient who showed severe sensitivity to both purified liver extract and to a vitamin B_{12} concentrate. He showed no undesired reactions to crystalline vitamin B_{12}. Similarly, Noren[37] found that patients who were sensitive to liver extracts gave negative skin reactions when tested with pure vitamin.

This is an important consideration since one of the main uses for vitamin B_{12} is the treatment of anemic patients who are sensitive to liver extract.[32-38] Indeed, as pointed out by Bethell and his colleagues[10] the efficacy of liver extracts in the treatment of pernicious anemia appears to depend upon the amount of cobalamin (vitamin B_{12}) compounds they contain and, when given by intramuscular injection, solutions of the compounds are effective substitutes for liver. In general, vitamin B_{12} seems to be the red-cell maturing factor of the liver.

As remarked by Murphy,[39] there is evidence to support the belief that vitamin B_{12} is the factor or one of the factors of liver and its extracts that is effective in the treatment of pernicious anemia. The fact that it is effective when administered parenterally and that much larger doses are required for oral administration has led to the belief that not only is vitamin B_{12} the extrinsic factor of Castle but that it is actually the anti-pernicious anemia factor.

These data help to explain the importance of vitamin B_{12} in the treatment of pernicious anemia. Its effectiveness in controlling the hematologic, neurologic and tongue manifestations of the disease has been con-

EASTMAN
INDUSTRIAL CHEMICALS

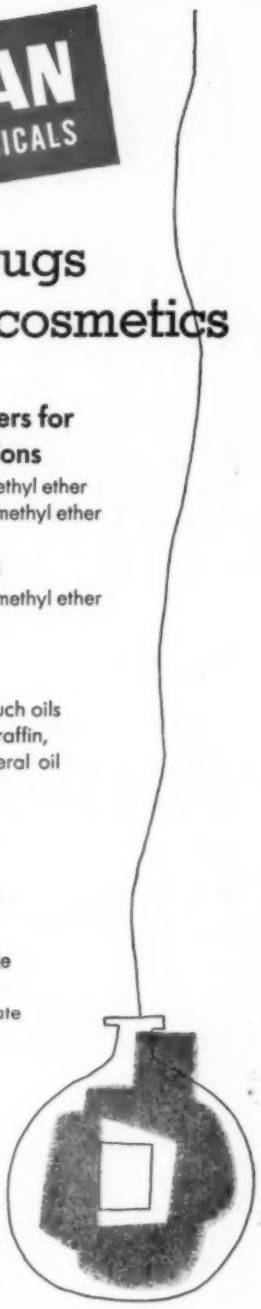
in drugs
and cosmetics

Ultraviolet absorbers for sun tan preparations
hydroquinone diethyl ether
hydroquinone dimethyl ether

Perfume aromatics
hydroquinone dimethyl ether
Compound 77-B

Stabilizers
Tenox BHA for such oils and waxes as paraffin, stearic acid, mineral oil and lanolin.

Finger nail polish
FILM BASE
cellulose acetate
PLASTICIZERS
dimethyl phthalate
diethyl phthalate
di-isobutyl phthalate
SOLVENTS
acetone
ethyl acetate



FOR INFORMATION
about these and other Eastman industrial chemicals, call our nearest sales representatives* or write to Tennessee Eastman Company, Chemical Sales Division, Kingsport, Tennessee.

*SALES REPRESENTATIVES: New York–260 Madison Ave.; Framingham, Mass.–7 Hollis St.; Cleveland–Terminal Tower Bldg.; Chicago–360 N. Michigan Ave.; St. Louis–Continental Bldg.; Houston–412 Main St. **West Coast: Wilson Meyer Co.,** San Francisco–333 Montgomery St.; Los Angeles–4800 District Blvd.; Portland–520 S. W. Sixth Ave.; Seattle–821 Second Ave.

TENNESSEE EASTMAN COMPANY
Division of Eastman Kodak Company
KINGSPORT, TENNESSEE

Use
BUSH
Compounds
to give
Sunshine
to your
Products

W. J. BUSH & CO.
(Incorporated)
Essential Oils
19 West 44th St. • New York 18, N. Y.
Chicago • National City, Calif. • Montreal

firmed repeatedly.[11] The medical literature[40-44] also shows that, in addition to its role in pernicious anemia, vitamin B_{12} is indicated in the treatment of nutritional macrocytic anemia, megaloblastic anemias associated with such gastrointestinal disorders as sprue, steatorrhea and chronic pancreatitis, and certain cases of megaloblastic anemia of infancy. Although the vitamin is effective in cases of macrocytic anemia of pregnancy and the after-delivery period,[45] it is not effective in megaloblastic anemias of pregnancy and the puerperium.[46] However, Holly[47] has reported that the combined administration of vitamin B_{12} and ascorbic acid produced complete emission of the symptoms of megaloblastic anemia of pregnancy in three patients.

As noted above, vitamin B_{12} may be given parenterally or orally in the treatment of anemia. However, much larger quantities, ranging from 30 to 50 times the parenteral dose, are required orally to produce therapeutic results comparable to those obtained by injecting the vitamin.[48] However, the effectiveness of the oral dose can be greatly increased and the required amount decreased by the simultaneous administration of normal gastric juice or concentrates prepared from hog stomach or duodenal mucosa.[11,39,49,50] These are known sources of the so-called intrinsic factor which is believed necessary for the utilization of orally administered vitamin B_{12}.

It should be noted at this point that there appears to be an interrelationship between vitamin B_{12} and folic (pteroylglutamic) acid.[41,51] These two members of the vitamin B complex seem to work in a cooperative or synergistic manner in pernicious anemia.[39,52] In recent studies[53] with vitamin B_{12} potentiators, folic acid was the most active of all the substances. Clinically favorable results have been obtained[54] from the oral administration of vitamin B_{12} combined with folic acid. Grollman[52] mentions that capsules containing such a combination will maintain patients suffering from pernicious anemia and avoids the necessity of parenteral therapy. In some cases the parenteral administration of both vitamin B_{12} and folic acid may be required to achieve a satisfactory therapeutic result.[10]

It has been pointed out[55] that while both folic acid and vitamin B_{12} are effective in improving the blood picture in pernicious anemia, the neurological complications respond only to vitamin B_{12}. Thus it has been found[56] that combined degeneration of the spinal cord does not develop in persons with pernicious anemia receiving folic acid if vitamin B_{12} is also given. The neurological symptoms may be arrested by such a combination[57] and psychoneuropathic conditions associated with the folic acid treatment of pernicious anemia may be cleared rapidly by using vitamin B_{12}.

After considering its effectiveness in arresting or reversing neurodegenerative changes in pernicious anemia, Hall, Krusen and Waltman[59] successfully employed vitamin B_{12}, plus coordination exercises, in the treatment of 12 patients with combined degeneration of the spinal cord associated with pernicious anemia.

Others[60,61] have also used this factor to improve the neurological manifestations of pernicious anemia.

In view of these results it is not surprising that vitamin B_{12} should be tried for neurologic conditions other than those associated with the hematologic disorder. For example, the beneficial results obtained by Sancetta, Ayres and Scott[62] suggest that vitamin B_{12} may be of importance in controlling the neurologic manifestations of diabetes mellitus. Following the encouraging results obtained with large doses of the agent in patients with alcoholic or diabetic polyneuritis, Menof[63] feels that equally good results might be obtained in other forms of polyneuritis and in other nervous disorders associated with chronic alcoholism, such as delerium tremens, Korsakoff's psychosis and alcoholic hallucinosis.

Nutritional neuropathy also responds to vitamin B_{12}. Thus, in three malnourished patients with painful peripheral neuropathy, intramuscular injections of the factor produced rapid relief.[64] Quite recently, Fields and Hoff[65] reported that 13 cases of trigeminal neuralgia have been treated with large doses of intravenously administered vitamin B_{12}. "Remarkable relief" was obtained in all cases, with prompt and complete remission in nine instances.

There seems to be a difference of opinion regarding the value of vitamin B_{12} in the treatment of multiple sclerosis. French workers[66] have reported improvement from its rise in a number of cases. In contrast, American investigators[67,68] found that the vitamin produced no striking beneficial effects in patients with this disease. However, some patients did observe an increase in appetite and a sense of well-being.

Interesting and indicative is Hallahan's[69] preliminary report on the symptomatic relief obtained with vitamin B_{12} in osteo-arthritis and osteoporosis. In summarizing the observations on 33 patients with osteoarthritis he reported that by the end of the first week 20 patients had benefited by the treatment, and of these, seven had obtained 100 per cent relief. By the end of the second week, four more showed partial relief and two more showed 100 per cent relief of symptoms. By the end of the third week a total of 16 showed partial relief of symptoms and a total of 14 had 100 per cent relief; or 30 of 33 patients showed some benefit in this arbitrarily selected period. In the two cases of osteoporosis, both began to be relieved with the first week of treatment and were entirely asymptomatic by the third week.

The potentialities of vitamin B_{12} in allergic disorders are also being investigated. Smith,[70] for example, mentions that observations by different workers indicate that it has an anti-histaminic and an anti-anaphylactic effect. However, the laboratory data on these actions are rather contradictory. From his studies on guinea pigs, Traina[71] concluded that the vitamin exerts an antagonism to histamine similar to that shown by the antihistaminic drugs. In contrast, Ducrot[72] reported that vitamin B_{12} failed to show any protective effect

DUVEEN

(formerly REINITZ)

SOAP

CORPORATION

Especially Fine Private Label

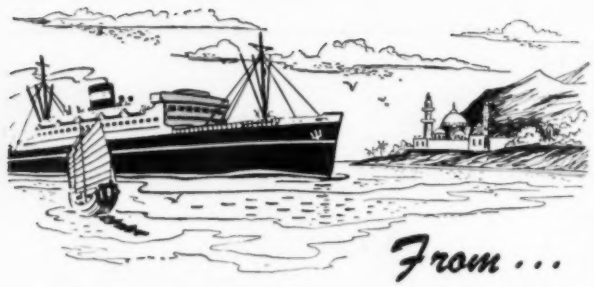
TOILET SOAPS

SHAVE SOAPS

MEDICATED SOAPS

Manufactured in our new and completely modern plant. All soaps made strictly to customer's specifications.

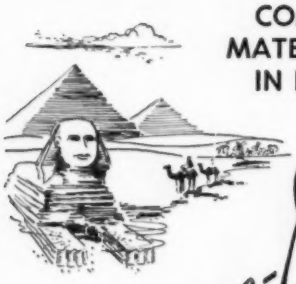
36-14 35th Street, Long Island City 6, N. Y.
STilwell 4 7870-71



From . . .

LANDS BEYOND THE SEAS

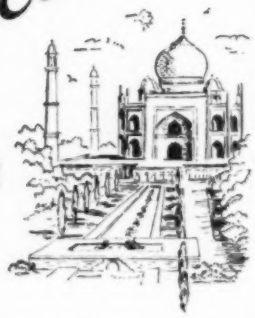
COME THE PRICELESS MATERIALS USED IN FORMULATING



Fragra-Scents*

* FINE PERFUME BASES

in



MODERNE
EXOTIC
BOUQUET
FLORAL
Types

Neumann, Buslee & Wolfe, inc.

MANUFACTURED BY:

5800 Northwest Highway
Chicago 31, Illinois

Telephone ROdney 3-1130

Merchants • Importers • Manufacturers
ESSENTIAL OILS • AROMATIC SPECIALTIES
PERFUME CONCENTRATES • FLAVORS • WAXES

against induced histamine shock in guinea pigs. From clinical observations, Simon[73] is of the opinion that, while vitamin B_{12} is probably of no value in the treatment of chronic bronchial asthma, the agent is worthy of trial in allergic dermatosis, especially chronic urticaria and chronic contact dermatitis. Infantile eczema has also responded to vitamin B_{12}.[74]

There is growing evidence that other dermatological conditions may benefit from the use of the vitamin. In Austria, Reimer[75] obtained highly satisfactory results with the substance in ten patients with decompensated pernicious anemia and associated herpes zoster. Giving large doses of vitamin B_{12} resulted in disappearance of the cutaneous manifestations and the neuritic complaints. In France, Heyblon[76] reported that eight of 11 patients with herpes zoster received complete relief from the violent pains within two to six days of treatment with intramuscularly injected vitamin B_{12}. Jolles,[77] in England, obtained "uniformly excellent results", in six patients with this skin condition after injecting a vitamin B_{12} concentrate.

Goldblatt[78] has tried vitamin B_{12} in the treatment of four cases of lupus erythematosus. The results were of such a nature as to suggest that the agent might be effective in this disease. The use of vitamin B_{12} is further favored by the painlessness of the injection, the comparative low cost, and lack of toxicity. Similarly, Andrews and his colleagues[79] found that vitamin B_{12} is a valuable aid in the treatment of seborrheic dermatitis. When used in conjunction with other appropriate measures in 37 cases, 16 given the vitamin were apparently cured, 16 were improved, three were slightly improved and two appeared to derive no benefit from the injections.

Several reports suggest that vitamin B_{12} may be useful in the treatment of various other conditions. Thus, of ten patients with migraine who were treated with this material, all except one became free from attacks: some for as long as three months. In four additional cases of chronic headache of many years' duration, two were improved and two were not by vitamin B_{12}.[80] Also interesting and indicative is Rail's[81] report of two cases of ulcerative colitis treated with vitamin B_{12}. Both responded to treatment and have remained well for over a year.

In experimental studies[82] with mice, it was found that an adequate supply of both vitamin B_{12} and folic acid may be an important factor in the recovery of tissue damaged by internal radiation, as from radiophosphorus. In other experiments vitamin B_{12} has proved to be effective in overcoming the growth inhibition resulting from treatment with thyroid-active substances, especially estrogenic hormones or thiouracil. Similarly the combined use of vitamin B_{12} and aureomycin has served to overcome the growth-inhibition accompanying the use of large doses of cortisone.[83]

As a matter of fact, vitamin B_{12} appears to be an important factor in the general picture of both human and animal growth. Especially noteworthy is the

report of Wetzel and his colleagues[84] on the association between vitamin B_{12} deficiency and growth failure in children and the response of such children to oral vitamin B_{12} therapy. They found that in five of 11 children, in addition to definite growth responses, such therapy produced "increased physical vigor, alertness, better general behavior, but above all, a definite increase in appetite, manifested by demands for 'second helpings,' as contrasted with comparatively indolent food habits before."

Also indicative is Chow's[85] report on the improved weight gains of both sick and healthy children taking vitamin B_{12} orally. After three months the mean gain in body weight in an experimental group of 21 chronically ill, hospitalized children was practically twice that of a control group of 24 children. In experiments with normal children, the average gain in body weight of the experimental group receiving vitamin B_{12} was consistently greater than that of the controls from the fourth week onward.

Salmi[86] likewise reported that five hypotrophic infants showed "dramatic" clinical improvement after the administration of vitamin B_{12}.

Unfortunately, all workers have not been able to obtain similar responses.[87] Benjamin and Pirrie[88] reported that the administration of vitamin B_{12} made no difference in the rate of increase in height or weight in chronically ill children or in youngsters recently recovered from an acute illness. Downing[89] experienced "disappointing" results in the weight gain rate when the vitamin was given to premature infants. In related studies, Mitchell and his associates[90] were unable to demonstrate any influence of vitamin B_{12} or sodium folvate (pteroylglutamate), singly or in combination, on premature infants.

In view of the conflicting findings, the Council on Foods and Nutrition of the A.M.A.[91] urges a cautious attitude "toward employment of vitamin B_{12} or folic acid in an attempt to augment the normal growth of healthy infants being fed either artificially or by a well-nourished mother. Any studies claiming improved growth in normal children from supplementary vitamin B_{12} or folic acid will have to be appraised critically." It is recognized, of course, that certain pathological conditions leading to reduced intake of utilization might increase the need for these vitamins.

There is general agreement, however, that vitamin B_{12} produces a lipotropic effect.[3,11,92,93] Thus, like certain other members of the vitamin B complex, especially choline and inositol, vitamin B_{12} is concerned with lipid metabolism and transport. It may therefore help in the prevention and treatment of fatty degeneration of the liver and other hepatic disorders. Vitamin B_{12} is now included in several lipotropic preparations that are suggested for use in treating various liver diseases, diabetes, atherosclerosis and other conditions where impaired fat metabolism may be a factor.

Of related interest is the experimental work of Engel and Alexander[94] in which it was shown that choline or vitamin B_{12} can prevent nutritional edema in rats. It

"HORSE HEAD" U.S.P. ZINC OXIDE
IMPROVES COSMETIC POWDERS
5 WAYS

1. BETTER APPEARANCE
High covering power
Warm whiteness
Fine texture

2. LONGER-LASTING
Superior adherence
High oil absorption
Perfume fixative

3. DEODORANT
Neutralizes perspiration acids
Bacteriostatic action

4. SKIN PROTECTION
Soothing
Mildly astringent

5. SUNBURN PROTECTION
Screens out sunburn rays

THE NEW JERSEY ZINC COMPANY
Founded 1848
Products distributed by
The New Jersey Zinc Sales Company
New York · Chicago · Boston
Cleveland · San Francisco · Los Angeles

KOMMON/ SCENTS!

Business is booming for rest homes throughout the nation. Vacation time has come to a screeching halt and the need for a mass rest was never greater.

•

For many Americans this is the first vacation marked by two bald-headed citizens being represented as our national heroes: General Eisenhower and Governor Stevenson. More than the speeches of each candidate can be properly described as "smoother than a baby's . . . ".

•

Summertime 1952 had one thing in common with other vacation periods of recent years. Romances continued to blossom with greetings from Dan Cupid. But many young men were moved more by Greetings from Uncle Sam.

•

Florida made a big dent in the summer vacation trade. The "package" tours combining hotels, transit fare and entertainment in one modest bill added more to Miami's population than the Stork and Flamingo combined.

•

To New Yorkers summer's end means a return to the palpitations and blood pressure increase of the non-medical variety: World's Series time is in the offing and the Giants and Dodgers are at each other's throats.

•

Was a time, not too long ago, when a feller considered it a vacation if he got sick for three days in a row. But since the advent of inter-ocean air travel and the five-day work week a guy who hasn't week-ended in London, Paris or Rome sounds like a slave to his work—or a recipient of Public Welfare.

•

The Cosmetic Industry is to be congratulated for its broad view of vacations. As one executive puts it: "A vacation is when you can afford to go where you want to go and tell your creditors where they can go."

George Fiedler

KELTON

Cosmetic Company

230 West 17th Street, New York 11, N. Y.
763 So. Los Angeles Street, Los Angeles 14, Calif.

Private Label Manufacturers Exclusively
Covered by Product Liability Insurance

was observed that when the young animals are fed a diet supplemented with either of these vitamins they do not develop edema, anemia or liver cirrhosis. Results from the use of vitamin B_{12} in these experiments were particularly impressive, because it not only prevented edema but it also permitted the rats to grow at a fairly good rate even on a poor diet. On the same diet, choline prevented the edema, but did not aid in animal growth.

This of course is an additional link in the chain of evidence pointing to the importance of vitamin B_{12} in animal nutrition. Extensive tests and practical observations with chickens, hogs and other animals have shown that vitamin B_{12} promotes growth[11,95,96] and that it is identical with or closely related to the so-called animal protein factor.[40,97,98] Vitamin B_{12} has now become an important animal feed supplement. It is also included in poultry rations to exert a favorable influence on both growth and egg hatchability.

BIBLIOGRAPHY

1. Rickes, E. L. et al: Science 107:396, 1948.
2. Smith, E. L.: Nature 161:638, 1948.
3. Mushett, C. W.: Paper delivered before Scientific Section, Proprietary Assoc., Dec. 7, 1950.
4. Smith, E. L.: Brit. Med. J. 1:160, 1952.
5. Smith, E. L.: Pharm. J. 166:143, 1951.
6. Lewis, U. J., Tappan, D. V. & Elvehjem, C. A.: in "Abstracts of Papers", 121st Meeting American Chemical Society, 1952, p 11c; also Chem. & Eng. News 30:1488, 1952.
7. Pierce, J. V., Page, A. C., Jr., Stokstad, E. L. R. & Jukes, T. H.: J. Am. Chem. Soc. 71:2932, 1949.
8. Pierce, J. V., Page, A. C., Jr., Stokstad, E. L. R. & Jukes, T. H.: J. Am. Chem. Soc. 72:2615, 1950.
9. Keeping Posted: Drug & Cosmetic Ind. 69:305, 1951.
10. Bethell, F. H., Swenslid, M. E., Miller, S. & Cintron-Rivera, A. A.: Ann. Int. Med. 35:518, 1951.
11. Emerson, G. & Folkers, K.: Ann. Rev. Biochem. 20:559, 1951.
12. Macek, T. J. & Feller, B. A.: J. Am. Pharm. Assoc., Scient. Ed. 41:285, 1952.
13. Hartley, F., Stross, P. & Stuckey, R. E.: J. Pharm. & Pharmacol. 2:648, 1950.
14. Leffler, M. T.: U. S. Pat. 2,579,679, 1951.
15. Koniuszy, F. R., Brink, N. G. & Folkers, K.: U. S. Pat. 2,594,314, 1952.
16. Meyer, C. E. & De Vries, W. H.: U. S. Pat. 2,595,159, 1952.
17. Wood T. R. & Hendlin, D.: U. S. Pat. 2,595,499, 1952.
18. Lewis, U. J., Register, U. S., Thompson, H. T. & Elvehjem, C. A.: Proc. Soc. Exper. Biol. & Med. 72:479, 1949.
19. Miner, C. S., Jr. & Wolnak, B.: in "Abstracts of Papers" 121st Meeting A.C.S. 1952; p. 10c
20. Hoover, S. R., Jasewicz, L. B. & Porges, N.: Science 114:213, 1951.
21. Leviton, A. & Hargrove, R. E.: in "Abstracts of Papers," 121st Meeting A.C.S., 1952, p. 5A.
22. Robinson, F. A., Williams, B. W. & Brown, L. H.: J. Pharm. & Pharmacol. 4:27, 1952.
23. Shorb, M. S.: Science 107:397, 1948.
24. Shorb, M. S. & Briggs, G. M.: "Studies on the Nutrition of *Lactobacillus Lactis*, The Organism Used for the Isolation of Vitamin B_{12}," Bull. A-66, University of Maryland, Agri. Exper. Station, June, 1952, 12 pp.
25. Miller, L. C.: Drug Standards 20:42, 1952.
26. Brownlee, K. A.: Drug Standards 20:48, 1952.
27. Harrison, E., Lees, K. A. & Wood, F.: Analyst 76:696, 1951.
28. Burkholder, P. R.: Science 114:459, 1951.
29. Frost, D. V., Fricke, H. H. & Spruth, H. C.: Paper presented before the Federation of American Societies for Experimental Biology, April 15, 1952.
30. Anon.: Nutrition Rev. 9:251, 1951.
31. Dyke, W. J. C., Hina, H. G., Riding, D. & Shaw, G. E.: Lancet 1:486, 1950.
32. Council on Pharmacy and Chemistry, A.M.A.: "New and Nonofficial Remedies," Philadelphia, Lippincott, 1951, pp. 454-5.
33. Winter, C. A. & Mushett, C. W.: J. Am. Pharm. Assoc., Scient. Ed. 39:360, 1950.
34. Traina, V.: Arch. Path. 49:278, 1950.
35. Bedford, P. D.: Brit. Med. J. 1:690, 1952.
36. Young, W. C., Ulrech, C. W. & Fouts, P. J.: J. A. M. A. 143:893, 1950
37. Noven, B.: Acta Med. Scand. 137:48, 1950
38. Berger, H.: New York State J. Med. 50:331, 1950.
39. Murphy, W. P.: J. A. M. A. 149:907, 1952.
40. Lesser, M. A.: Drug & Cosmetic Ind. 64:688, 1949.
41. Strauss, M. B.: New England J. Med. 243:187 & 222, 1950.
42. Schmatolla, E., Gibson, A. & Carlisle, J. M.: Postgrad. Med. 6:No. 4, Oct. 1949.
43. Sturgis, C. C.: Postgrad. Med. 11:83, 1952.
44. McPherson, A. Z. & Johsson, U.: Am. J. Med. 7:128, July, 1949.
45. Patel, J. C. & Kocher, B. R.: Brit. Med. J. 1:924, 1950.
46. Ungley, C. C. & Thompson, R. B.: Brit. Med. J. 1:919, 1950.
47. Holly, R. G.: Proc. Soc. Exper. Biol. & Med. 78:238, 1951.
48. Speis, T. D.: South. Med. J. 42:528, 1949.
49. Hall, B. E. et al: Proc. Staff Meet Mayo Clin. 25:105, 1950.
50. Ungley, C. C.: Brit. Med. J. 2:905, 1950.
51. Witts, L. J.: Brit. Med. J. 1:160, 1952.
52. Grollman, A.: "Pharmacology and Therapeutics," Philadelphia, Lea & Febiger, 1951, p. 628.
53. Griffenhagen, G. B. & De Guia, E. F.: J. Am. Pharm. Assoc., Scient. Ed. 41:181, 1952.
54. Meyer, L. M., Sawitsky, A., Ritz, N. D. & Krim, M.: Am. J. Clin. Path. 20:454, 1950.
55. Woods, R.: Borden's Rev. Nutrition Res. 8:10, Jan. 1952.
56. Editorial: J. A. M. A. 147:979, 1951.

57. Chodos, R. B. & Ross, J. F.: Blood 2:1213, 1951.
58. Field, H.: Brit. Med. J. 2:147, 1950.
59. Hall, B. E., Krusen, F. H. & Woltman, H. W.: J. A. M. A. 141:257, 1949.
60. Mueller, J. F., Jarrold, T., Hawkins, V. R. & Vilter, R. W.: Ohio State Med. J. 46:225, 1950.
61. Bortz, D. W. & Battle, J. D., Jr.: Cleveland Clin. Quart. 17:166, 1950.
62. Sancella, S. M., Ayers, P. R. & Scott, R. W.: Ann. Int. Med. 35:1028, 1951.
63. Menof, P.: S. African Med. J. 24:705, 1950; 25:394, 1951.
64. Bean, W. B., Franklin, M. & Saks, A. L.: Am. J. Med. Sci. 220:431, 1950.
65. Fields, W. S. & Hoff, H. E.: Neurology 2:131, 1952.
66. Lereboullet, J., Pluvinage, R. & Coty, R.: Paris Letter. J. A. M. A. 143: 1272, 1950.
67. Schumacher, G. A.: J. A. M. A. 143:1241, 1950.
68. Booth, C. B., Lawyer, T., Jr. & von Storch, T. J. C.: J. A. M. A. 147:894, 1951.
69. Hallahan, J. D.: Amer. Pract. 3:27, Jan. 1952.
70. Smith, E. L.: Brit. Med. J. 1:151, 1951.
71. Traina, V.: Nature 165:439, 1950.
72. Ducrot, R.: Compt. rend. soc. biol. 144:697, 1950.
73. Simon, S. W.: J. Allergy 22:183, 1951.
74. Dieterich, J. P.: Ann. West. Med. & Surg. 5:47, Jan. 1951.
75. Reimer, E. E.: Wein. Klin. Wochenschr. 63:941, 1951.
76. Heyblon, R.: Med. franc. 11:102, 1951; also Paris Letter, J. A. M. A. 146:1338, 1951.
77. Jolles, K. E.: Brit. Med. J. 1:959, 1950.
78. Goldblatt, S.: J. Investig. Dermat. 17:303, 1951.
79. Andrews, G. C., Post, C. F. & Domoukos, A. N.: New York State J. Med. 50:1921, 1950; Australian J. Dermat, March 1, 1951, p. 11.
80. Urdahl-Aasen, H.: Tidsskr. norske laegefor. 71:390, 1951.
81. Rail, G. A.: Lancet 2:816, 1951.
82. Cornatzer, W. E., Harrell, G. T., Jr., Coyer, D. & Artom, C.: Proc. Soc. Exper. Biol. & Med. 76:552, 1951.
83. ————: Proc. Soc. Exper. Biol. & Med. 78:692, 1951 (through) Bordon's Rev. Nutrition 13:28, Feb. 1952.
84. Wetzel, N. C., Fargo, W. C., Smith, I. H. & Helikson, J.: Science 110: 651, 1949.
85. Chow, B. F.: J. Nutrition 43:323 1951.
86. Salmi, L.: Clin. pediat. 32:617, 1950.
87. Speis, T. et al: (through) Chemistry 25:21, March, 1952.
88. Benjamin, B. & Pirrie, G. D.: Lancet 1:264, 1952.
89. Downing, D. F.: Science 112:181, 1950.
90. Mitchell, T., Etteldorf, J. N., Tuttle, A. H. & Clayton, G. W., Jr.: Pediatrics 8:821, 1951.
91. Council on Foods and Nutrition: J. A. M. A. 146:1028, 1951.
92. Drill, V. A. & McCormick, H. M.: Proc. Soc. Exper. Biol. & Med. 72:388, 1949.
93. Popper, H., Koch-Weser, D. & Szanto, P. B.: Proc. Soc. Exper. Biol. & Med. 71:688, 1949.
94. Engel, R. W. & Alexander, H. D.: Paper presented at the April 15, 1952 meeting of the Federation of American Societies for Experimental Biology.
95. Editorial: Brit. Med. J. 1:640, 1952.
96. Anon.: Nutrition Rev. 7:183, 1949.
97. Schweigert, B. S.: Nutrition Rev. 7:225, 1949.
98. Hodge, H. M., Hanson, C. T. & Allgeier, R. J.: Ind. & Eng. Chem. 44: 132, 1952.

The Sympathomimetic Drugs

(Continued from page 321)

The sympathomimetic amines have been found to alleviate the allergic, skin reactions that occur in serum sickness, urticaria and hay fever. It is surmized that they negate the vasodilating effect of histamine but this is not certain. The stimulation of the central nervous system is an important property of amphetamine and numbers of the group closely related to it, and is made use of in psychiatric disorders; it is also used in normal cases to diminish fatigue, appetite, to increase mental alertness and the metabolic rate.

Absorption of Sympathomimetic Amines

The laevo rotatory form of epinephrine is synthesized in the body and released into the blood stream through the medium of the medulla of the suprarenal gland. Normal plasma contains about 0.1 microgram per cent and the adrenal gland about 100 mg per cent of epinephrine. Thus, the medulla of the suprarenal gland may be looked on as a master adrenergic organ capable in emergency of releasing into the circulation enough epinephrine to produce a strong adrenergic action. It disappears rapidly from the blood stream through being oxidized by cytochrome and polyphenol oxidases among the cellular enzymes.

The body's method of inactivating these amines appears to vary with their molecular structure. Some enzymes act only on those members of the series that have a phenolic configuration; others are dependent on the position of the amino group in relation to the rest

Amino Products

with a future

Glutamic Acid

Glutamic Acid Hydrochloride

Glutamic acid has long been known to be a major constituent of body protein. Recently interest in this amino acid has grown due to clinical findings which show large quantities of glutamic acid to be present in the brain. Today clinical research is being carried out by numerous investigators, and new strides are being made in the pharmaceutical and medical application of glutamic acid and glutamic acid hydrochloride.

Bulk quantities of both these products may be procured from International Minerals & Chemical Corporation, leaders in the research and production of these amino products.

International Glutamic Acid
(Pharmaceutical Grade)
International Glutamic Acid Hydrochloride
(Pharmaceutical Grade)
available in 25 and 100 pound drums

This booklet provides a critical summary of progress to date in the study of glutamic acid. Price lists, complete specifications, and tests illustrating the purposes and high purity of International's Glutamic Acid and Glutamic Acid Hydrochloride are also available upon request.

Send for this informative booklet

San Jose Laboratories of International Minerals & Chemical Corporation, devoted exclusively to the manufacture of amino products including glutamic acid and glutamic acid hydrochloride.

Pharmaceutical Department

Amino Products Division
International Minerals & Chemical Corp.
20 North Wacker Drive Chicago 6, Illinois

Huisking
A Primary Source
Drugs, Chemicals, Vitamins, Oils
IMPORT and EXPORT MERCHANTS
ESTABLISHED INC

CAMPHOR USP *DUPONT*
QUININE & SALTS *BRAUNSCHWEIG*
SUGAR OF MILK USP AND COMMERCIAL
MENTHOL USP
BRUCINE SALTS
HYOSCINE HYDROBROMIDE
ATROPINE SULFATE
NAPHTHALENE
SULFUR PRECIPITATED
HAARLEM OIL
MAGNESIUM CARBONATE USP, BLOCKS
CHLOROPHYLL

CHAS. L. HUISKING & CO., Inc.
45 CLINTON AVENUE, BROOKLYN 5, N. Y.
Telephone: ULster 8-5800
Telegrams: HUISKING WUX, NEW YORK
London Agents: Wheeler & Huisking Ltd. 26 Great Tower St., E.C.3
Cables Huisking, New York

PEDER DEVOLD COD LIVER OIL USP
"The Bottlers Choice Everywhere" P.D.
ALL POTENCIES • STANDARDIZED
From Can to Carload Quantities

PEDER DEVOLD COD LIVER OIL USP, *Norwegian*
5 gal. cans, 30 gal. bbls., 30 gal. drums, and 50-56 gal. drums
Attractively lithographed 1 gallon cans.
PEDER DEVOLD COD LIVER OIL USP, High Potent
Available in all natural potencies.
DEVOLKOD ® COD LIVER OIL USP, *Non-Destearinated*
DEVOLD VITAMIN A & D FEEDING OILS
DEVOLKOD ® VITAMIN OILS (*Fortified Cod Liver Oils*)
DEVOLD VITAMIN A OILS
PEDER DEVOLD WHEAT GERM OIL
VITAMIN A & D CONCENTRATES
DEVOLD DRY D3 (A Feed Supplement)
CAROTENE CRYSTALS

PEDER DEVOLD OIL CO
DIVISION CHAS. L. HUISKING & CO., INC.
Telephone: ULster 8-5800
Cables: VITAMINE, NEW YORK
45 Clinton Ave., Brooklyn 5, N. Y.
Telegrams: HUISKING, WUX, NEW YORK

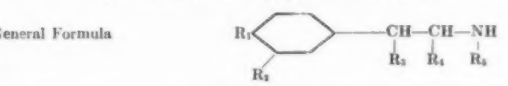
SANTONIN N.F. IX
Meeting Requirements of International Pharmacopoeias
ALKALOIDS of AMERICAN MANUFACTURE
SANTONINE COMPANY OF AMERICA
DIVISION OF CHAS. L. HUISKING & CO., INC.
45 CLINTON AVE., BROOKLYN 5, N. Y. Cable Address SANTONICO

of the molecule; in some cases, enzyme action is altogether inhibited by a special molecular arrangement. The fate of these compounds in vivo, therefore, is slightly different from one member to another just as is their pharmacological effect. In fact, it is this gradation of properties which makes them such a therapeutically useful group because it facilitates specific treatment. At one extreme, there is epinephrine which is stable only within a relatively narrow pH range, is very sensitive to enzymatic and chemical oxidation and has little effect when administered by the mouth. At the other extreme, is ephedrine which is excreted from the body unchanged; inhibits enzymatic oxidation and has a relatively prolonged action even when administered orally.

The manner whereby epinephrine is synthesized in the adrenal medulla is not known but it is surmized that it may be through the oxidation and methylation of tyramine. The transitory nature of epinephrine's clinical effects is due to the rapidity with which it is oxidized by amine oxidase; the longer-acting sympathomimetic drugs, such as ephedrine and amphetamine, owe their property to the fact that they inhibit the activity of this enzyme and so prevent it from oxidizing epinephrine almost as fast as it is produced by the adrenal gland.

TABLE I
Chemical Formula of Sympathomimetic Amines

General Formula



Name	R_1	R_2	R_3	R_4	R_5	Common Synonym
Epinephrine	OH	OH	OH	H	CH_3	Adrenaline
Corbasil	OH	OH	OH	CH_3	H	
Arterenol	OH	OH	OH	H	H	Nor-adrenaline
Epinine	OH	OH	H	H	CH_2	
Isopropylarterenol	OH	OH	OH	H	$CH\langle^{CH_2}_{CH_3}$	Isuprel
Phenylephrine	H	OH	OH	H	CH_3	Neo-Synephrine
Hydroxyamphetamine	OH	H	H	CH_2	H	Paredrine
Phenylpropanolamine	H	H	OH	CH_3	H	Propadrine
Ephedrine	H	H	OH	CH_3	CH_3	
Methamphatamine	H	H	H	CH_3	CH_3	Desoxyephedrine
Amphetamine	H	H	H	CH_3	H	Benzedrine
Pheledrine	OH	H	H	CH_3	CH_3	
Phenylpropylmethylamine	H	H	CH_3	H	CH_3	Vonedrine

Chemistry

The sympathomimetic amines fall into three general sections:

Aromatic compounds with an ethylamine type of side chain. Epinephrine is the most important of this group.

Aromatic compounds with an isopropylamine type of side chain, as in ephedrine.

Aliphatic amines such as 2-methylaminoheptane.

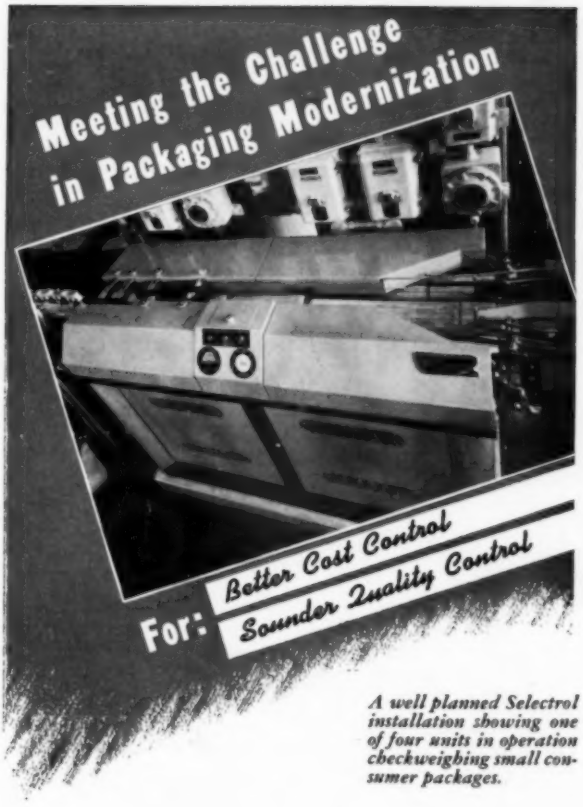
Table I sets out the molecular structures of most of the commercially available members of the first two sections. The general formula shows that there are five points where substitution can influence the physiological action of the product and, consequently, it is possible to prepare a very large number of active compounds by using different combinations of groups. By synthesis and clinical evaluation of the various possible

compounds, the individuals listed in Table I have been accepted as valuable additions to drug therapy.

Epinephrine is the parent of this group of pharmaceuticals but suffers from several disadvantages, the main one being its instability. This is due to the ease with which it is oxidized to adrenochrome—a member of the indole series—and the pink color that sometimes develops in solutions containing epinephrine is an indication that this oxidation has occurred. The instability is greatest in neutral or alkaline solutions and for this reason, the pH of its solutions is always adjusted to be below 5; some investigators put the maximum permissible pH at 3.5. Frequently, sodium metabisulphite is added to increase the stability of these solutions but the effectiveness of this has not been proved beyond doubt. Reference to Table I will confirm that epinephrine has an assymetric carbon atom at position R_3 and this confers optical activity on the compound. It is found that only the laevo rotatory modification is formed in vivo and that its biological activity is about sixteen times greater than that of the dextro rotatory form. Since most epinephrine is synthesized nowadays, the product has to be converted into the laevo form which is the only one that should be used in drug therapy. Unfortunately, solutions of the latter do gradually change in part to the dextro compound and this is one reason why epinephrine solutions may diminish in potency without the fact being detectable by chemical analysis. Because it is unstable in neutral or alkaline solutions, epinephrine has to be used in solution in the form of a salt and the hydrochloride and tartrate are both used, though the latter is the more stable salt.

Corbasil is a German discovery which is advocated as having the advantages of epinephrine but with an improved stability, though not sufficiently so to enable it to be heat sterilized in solution. This improved stability gives it a longer, but less intense action, than epinephrine; it is used in place of the latter in heart disease and particularly as a vaso-constrictor in solutions of local anaesthetics for dentistry, where it reduces the chances of collapse symptoms developing in the patient. An interesting chemical point about this derivative is that it posesses two assymetric carbon atoms, namely at R_3 and R_4 and therefore the so-called pseudo modifications should exist as well as the dextro-, laevo-rotatory and racemic forms. As with epinephrine, the laevo compound is more biologically active than the dextro isomer.

Arterenol has been known for many years but until recently it was thought to have no practical therapeutic advantages over epinephrine. The laevo rotatory form is believed to be identical with Sympathin E, that is, it is the chemical transmitter of excitory impulses from sympathetic nerve endings and is consequently of great fundamental—as opposed to practical—interest. But this also means that the constriction of arteries, which is one of the main determinants of blood pressure, depends on the release of arterenol and therefore the



A well planned Selectrol installation showing one of four units in operation checkweighing small consumer packages.

Sales & Service from Coast to Coast

How much is in the package . . . every package, has been the production man's most perplexing problem since volume packaging has become a reality. Solution has run the gauntlet from manual checkweighing and trimming, which has become prohibitive from the labor cost standpoint as well as too slow; spot checking (one out of ten packages in the line) which is sheer guesswork; hand adjusting of filling machines which depends entirely on the human element. Engineering genius has now solved this problem through the expanded use of industrial electronics to give top productive efficiency. Operating costs have been sharply reduced . . . physical labor cut to the vanishing point . . . inaccurate packages (plus or minus) at the lowest level ever attained in volume operation . . . speed of operation has been increased a hundred fold . . . and finally reliable operation has been assured. All of this has been accomplished by the astounding SELECTROL with statistical control. It's the heart of the present day packaging operation and truly industrial electronics newest and most complete application to volume packaging. Complete details if you write.

EXACT WEIGHT SCALES
Industrial Precision
THE EXACT WEIGHT SCALE COMPANY
935 West Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W. Toronto 18, Canada

Manufacturing Problems?

CONCENTRATE ON SELLING.

Let us take care of your production.
We can also handle your daily
drop-shipments.

BULK AND COMPLETE PACKAGING SERVICE

ACCURACY QUALITY DEPENDABILITY INTEGRITY

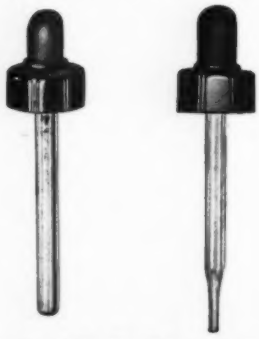
Cosmetries Inc.

21 Irving Place *New York 3, N. Y.*

REPUTATION BASED UPON PAST PERFORMANCE

GLASS - - -
PRODUCTS

DE LUXE DROPPERS



Prompt shipment of Quality Droppers can be made at all times. Write for samples and prices.

Glass Products Co.
Established 1922
Vineland, New Jersey

most natural way of raising blood pressure during surgical operation would be by giving arterenol. This application has been introduced into surgical procedure and is claimed to offer the most precise control over blood pressure. Arterenol is slightly more resistant to oxidation than epinephrine and it is claimed to be stable in alkaline solution for several hours.

Epinine was one of the first synthetic analogues of this group and has a relatively high stability—sufficient to permit of heat sterilization—but it has only about one-tenth the biological activity of epinephrine.

Isopropylarterenol was first described in 1940 and is the only one of the commonly used sympathomimetic amines in which the R_5 position in the general formula, is taken by a group other than methyl, in this case it is the isopropyl group. It is an important member of the series because its effect in relaxing bronchial spasm is ten times stronger than that of epinephrine; due to the profound stimulation of the heart which it causes, it cannot be injected subcutaneously or intravenously but it is usually given orally or sublingually. Hitherto, epinephrine was the most reliable agent for the relief of bronchial asthma but its place in this respect has now been taken by isopropylarterenol which, in addition to its greater activity, has the advantage of not raising the blood pressure—actually it causes the blood pressure to fall but not significantly in the concentrations used.

Phenylephrine is a relatively non-toxic and stable compound which can, therefore, be given orally and can be sterilized by heating. It helps alleviate the symptoms of nasal congestion by making the small blood vessels contract, and for the same reason is used in solutions of local anaesthetics to retard absorption and so prolong the action of the anaesthetic; it is also applied to the prevention of acute hypotension which sometimes occurs during spinal anaesthesia.

Hydroxyamphetamine lies between epinephrine and ephedrine in its effects; its cardiovascular and intestinal effects are mediocre and it exerts no appreciable influence on the central nervous system. It is used for its peripheral effects, such as the shrinkage of nasal mucosa for which purpose it is twice as effective as ephedrine.

Phenylpropanolamine is another derivative which is mainly used for its local constrictive action on capillaries.

Ephedrine is the best known, of those sympathomimetic agents possessing an isopropylamine side chain attached to the benzene nucleus in contrast to the epinephrine sub-group, which have an ethylamine side chain. It differs also by not carrying the two hydroxyl groups on the benzene nucleus, that is, the catechol configuration. The stimulation of the sympathetic nervous system that ephedrine causes depends on quite a different mechanism from that of the epinephrine type. The latter act by reinforcing the natural, production within the body of epinephrine and arterenol, but the action of ephedrine and its analogues, like amphetamine, rests on the fact that they are substrate

competitors for an enzyme, monoamine oxidase, which is present in blood vessels. This enzyme, under normal conditions, reacts with epinephrine and arterenol, breaking them down to methylamine and an aldehyde, but ephedrine inhibits this reaction thus rendering the organism more responsible to either epinephrine, released from the adrenal medulla, or arterenol, liberated at nerve endings. This mechanism also explains why ephedrine is excreted un-changed in the urine. The increase in blood pressure which it causes is more lasting than that from epinephrine and it has a moderate constrictive effect on capillaries when administered orally. Its disadvantages are that it may lead to mild anxiety or insomnia and the depth and duration of its other effects are somewhat unpredictable.

Methamphetamine was prepared as long ago as 1909 but introduced into clinical practice only in 1943. It is probably the most frequently used drug for combating low blood pressure following spinal anaesthesia and it has recently been proposed for overcomimg serious hypotension occurring with the use of ganglionic-blocking agents. The mechanism of its action is similar to that of ephedrine, namely by the inhibition of enzyme activity. Its weakness is that sometimes it gives rise to undesirable side-effects like headache, nausea and sweating.

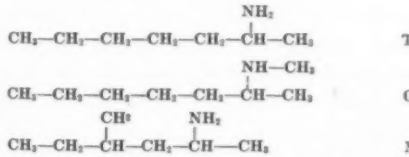
Amphetamine volatilizes slowly at ordinary temperature and consequently is very suitable for exerting a vasoconstrictive action on the nasal mucosa. In the form of its sulfate it is widely used in the treatment of certain depressive conditions, because of its stimulating affect on the central nervous system.

Pholedrine as one might expect from its formula, resembles both epinephrine and ephedrine; the former in its low toxicity and the latter in its prolonged action. It is particularly useful in restoring blood pressure depressed by surgical shock.

Phenylpropylmethylamine shares with amphetamine and methylamphetamine the peculiarity, for members of this group, of having no hydroxyl group in its molecule. Like amphetamine it is volatile and is used as an inhalant to produce constriction of nasal mucosa.

Aliphatic Amines

All the compounds described above are aromatic amines but recently it has been discovered that certain aliphatic amines have a sympathomimetic action. Three of this class have been accepted as drugs. Their formulae are given below:—



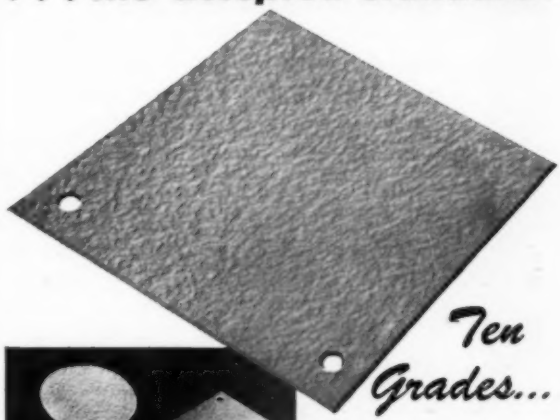
It will be seen that they have certain structural features in common. Their molecules can be considered as made up of two parts; a 4-carbon chain which is branched in the case of methylhexamine but is straight in the other two; and a 3-carbon chain with an amino,

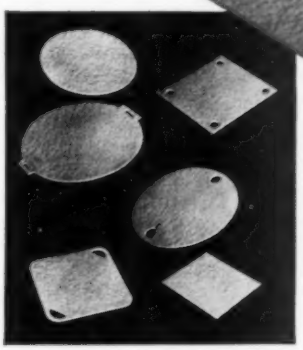
You can always be sure of a

Sparkling FILTRATE

WHEN YOU USE ERTEL ASBESTOS SHEETS

. . . the accepted standard!





Ten Grades...

1, 2, 3 } Liquid Soaps, Drugs, Viscous Liquids, etc.

4, 5, 6 } Pharmaceuticals, Elixirs Oils, Sweet Wines, Antiseptics

7, 8, 9 } Chemicals, Food Liquids, Whiskey, Wines, Cider, Water, Germproof

E0 Pyrogen & Bacterial Retentive

• Ertel Asbestos Filter Sheets are available for all types of filters using filter disks. Their high quality is recognized by industry as having no equal. We invite you to take advantage of our free offer and see for yourself why Ertel Sheets are the accepted standard.

Free Ertel Sheets for Test in your own plant

In order to determine the exact grade of sheets necessary to meet a particular requirement, tests should be made. The Ertel Laboratory maintains a free test service to determine the grade sheet best suited for your product, and upon determination a sufficient quantity of Ertel Sheets for a single set-up in your filter will be sent you without obligation.

FAMOUS ERTEL HAND CAPPER

Interchangeable chucks permit capping up to 40 mm caps. Ideal for sample lots or where mechanical devices are not applicable.

ERTEL ENGINEERING CORPORATION

KINGSTON 1, NEW YORK

Branch Office & Showroom Located in New York City

COMPLETE LINE OF Liquid Handling Equipment

ERTEL

How to produce more popular products

Always remember—
Never forget

NORDA MAKES GOOD SCENTS

Come to Norda if you want to make good scents pay off. Norda knows your needs. Norda scents make sales. Write today, right away, for free samples and catalogue.

Norda ESSENTIAL OIL AND CHEMICAL COMPANY, INC.
601 West 26th Street, New York 1, N. Y.
CHICAGO LOS ANGELES ST. PAUL MONTREAL
TORONTO HAVANA MEXICO CITY
LONDON PARIS

Are you doing a sales-successful job at the *point-of-purchase*—that all important last 3 feet between your product on the shelf and the jingle of the cash register? Brilliant low-cost APCO-designed, APCO-built plastic signs, displays and lighted replicas are doing a top-flight selling-by-reminding job for many of today's best sellers! APCO's free literature shows how—is packed with profitable suggestions for you. Write for it today . . .

ADVERTISING PLASTICS CO.
1926 L ST., N. W. WASHINGTON 6, D. C.
Displays — Replicas — Signs — Specialties

or substituted amino, group attached to the central carbon atom. It appears that a 7-carbon chain with an amino group in the 2-position is the best arrangement for this activity to be developed.

They are used mainly as inhalants since their volatility gives them a strong constrictive action on nasal mucosa. Oenethyl has been used in spinal anaesthesia to maintain blood pressure and has a more prolonged effect, with fewer side effects than the aromatic amines.

Aerosol Bombs

(*Continued from page 319*)

reactions will be obviated—but as of this time I have not heard of any concrete marketable containers.

Attempts have also been made to market aerosol bombs containing antiperspirant materials. These also failed because of mechanical failure. However there are antiseptic materials which are alcohol-soluble, which in turn could be incorporated into the chlor-fluoro propellent which should function as adequately as deodoants—if not as antiperspirants. Here we must measure the value of the convenience of application as against increased costs due to the use of a more expensive container and propellent as against the more conventional form. Few cosmetic firms have the equipment necessary for packaging of the propellent and they must therefore depend on an outside source to do this packaging for them. Aside from the loss of control, there is an additional profit sharing in any such scheme which does not make for good economic marketing. For most products this would appear to be perhaps the biggest factor against the further growth of products of this type. However the convenience and greater efficiency in use may easily overcome any such defects.

Certainly, the aerosol bombs are still being closely investigated for possible exploitation with different types of cosmetic items. Greater technological improvements in their design will undoubtedly clear the way for products which are not now thought of as being feasible in such a form. In time, the Aerosol preparations may, therefore, show greater feasibility over a wider range than they do currently.

Patent Thoughts and Trends

(*Continued from page 381*)

2,599,587—**Mt. Sinai Hosp. Research Found.—Prepn. of Antibacterial Substance from Pyridoxamine.**

2,599,665—**Natcon Industries—Acid Shampoo.**

2,599,996—**Ciba Pharmaceutical Products — Diphenyl Acetic Acid — Beta - (N-Cycloheptyl-Methylamino)-Ethyl Ester.**

2,600,301—**Smith, Kline & French Labs.—N-substituted-Beta-Halo-Ethyl Amines.**

2,600,344—**Reed & Carnrick—Androgenic Composition.**

2,600,539—**Parke, David—Prepn. of Salts of d-Tubocurarine.**

2,600,835—Glaxo Labs. (English)—2:6-Dihalogenodiphenyl ethers.

2,601,112—U. S. Vitamin Corp.—Edible Composition containing salt of choline.

2,601,141—Ciba Pharmaceutical — Amino-aryl - Pyridyl-Alkanols.

2,601,168—Ciba Pharmaceutical—Pregnenes.

2,601,204—Wisconsin Alumni Research Found.—Process of Lowering Blood Prothrombin Level and Lengthening Clotting Time with Methylene-Bis-Hydroxy Coumarin.

2,601,308—Specific Pharmaceuticals, Inc.—Anticoagulant, Amide of 3,3′-Carboxymethylene Bis (4-Hydroxycoumarin).

2,601,461—Wm. S. Merrell Co.—N-[2-Methoxy-3-(Alpha, Beta-Dicarboxyethylmercaptomercuri) - Propyl-]-o-Carboxymethylsalicylamide.

2,601,479—Abbott Labs.—Thiophene Carboxaldehydes.

2,601,569—Sterling Drug Inc.—Aqueous Soln. of Riboflavin.

2,602,038—Sharp & Dohme Inc.—Antibacterial Preparations.

2,602,039—Dome Chemicals, Inc.—Crude Coal Tar Dermatological Compositions.

2,602,040—The Givaudan Corp.—Enteric Coated Sympatholytic Composition.

2,602,043—Commercial Solvents Corp. — Tyrothricin Method.

2,602,086—Hoffmann-La Roche Inc.—4-Imidazolone Derivatives.

2,602,767—Merck & Co.—Mycosubtilin.

2,602,769—Upjohn Co.—Oxygenation of Steroids by Mucorales Fungi.

2,602,790—Wm. W. Merrell Co.—Mono-N-Heterocyclic Derivatives of 4,4′-Diaminodiphenylsulfone.

2,602,791—J. B. Niederl—N, N-Dialkyl Morpholinium Alkylsulfates.

2,602,792—Am. Cyanamid Co.—1-Carbocycliccarbamyl-4-Heterocyclic-Piperazines.

2,602,793—G. D. Searle & Co.—8-Haloxanthine Salts of N-Dialkylaminoalkyl-N-Arylmethylalpha -Aminopyridines.

2,602,795—G. D. Searle & Co.—Hydroxyalkyl Alkyl Derivatives of 5-Nitroso-6-Amino-1,2,3,4-Tetrahydro-2,4-Pyrimidinedione.

2,602,796—Am. Cyanamid Co. — 1-Carbamyl-4-Thiazolyl Piperazines.

2,602,797—Burroughs Wellcome & Co.—3-Amino-10-Methyl-9-p-Carbalkoxyaminophenyl Phenanthridinium Salts.

2,602,799—Hoffmann-La Roche Co. — Imidazolones.

2,602,803—Syntex—2-Acetoxytestosterone Esters.

2,602,804—Research Corp.—Compounds Useful in the Production of 17-Hydroxysteroids.

2,602,583—U. S. A.—Injectable Pectin Penicillin.

2,602,584—Am. Cyanamid Co. — Auseomycin Complex.

DO YOU HAVE LOTS OF SMALL, ROUND VIALS OR BOTTLES TO LABEL?

This is the way to do it—

ALSO AVAILABLE

The WORLD Model B SEMI-AUTOMATIC LABELER for relatively short runs and rapid change of label or container sizes.

- handles 90 to 180 containers per minute
- applies body labels, front and back labels or wrap around labels
- handles containers 5/16" diameter and larger, labels from postage stamp size up.
- does a clean, smooth, snug, precise job of label application

WRITE FOR BULLETINS

"YOU GET THE BEST LABELERS IN THE WORLD"

ECONOMIC MACHINERY COMPANY
WORCESTER 3, MASSACHUSETTS
DIVISION OF GEO. J. MEYER MANUFACTURING CO.
MILWAUKEE, WISCONSIN
New York Philadelphia Chicago San Francisco Los Angeles Denver Salt Lake City Seattle Portland Montreal Toronto Winnipeg Vancouver
Sydney, Australia Wellington, N. Z. San Juan, P. R. Ciudad Trujillo, D. R.

How to produce more popular products

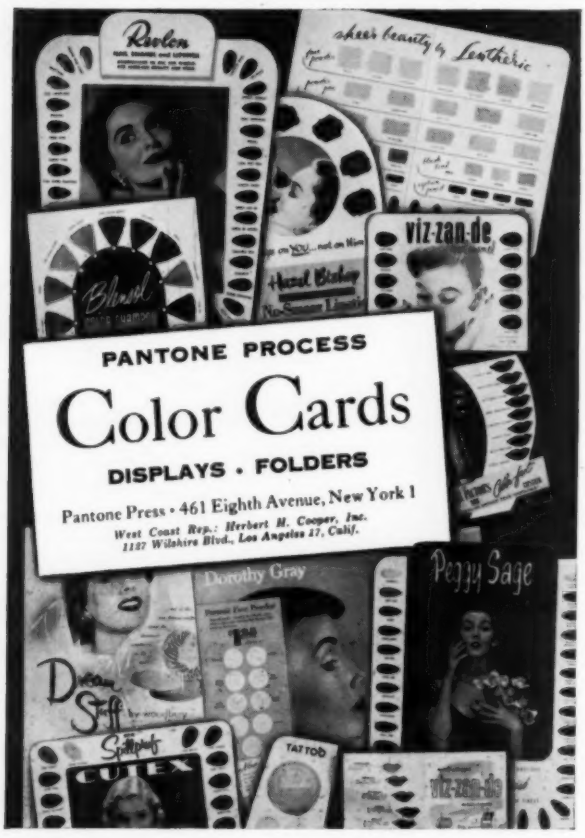
Always remember—
Never forget

NORDA MAKES GOOD SCENTS

Come to Norda if you want to make good scents pay off. Norda knows your needs. Norda scents make sales. Write today, right away, for free samples and catalogue.

Norda ESSENTIAL OIL AND CHEMICAL COMPANY, INC.
601 West 26th Street, New York 1, N. Y.

CHICAGO LOS ANGELES ST. PAUL MONTREAL
TORONTO HAVANA MEXICO CITY
LONDON PARIS



2,603,585—**Aktiebolaget Leo (Sweden)—Purification of Gonadotropic Hormones with a Basic Protein.**

2,603,632—**Am. Cyanamid Co.—Prepn. of Phosphoric Acid Esters of Riboflavin.**

2,603,633—**Commercial Solvents Corp.—Crystalline Riboflavin.**

2,603,640—**Upjohn Co.—11-Bromo Steroid Adducts.**

2,603,641—**Merck & Co.—Sulfonamide Choline Compounds.**

2,603,643—**Hoffmann-La Roche Co.—2-Amino-4-Hydroxy-6-Pteridine Polyhydroxyalkyl.**

2,604,429—**Imperial Chemical Industries—Veterinary Anaesthetic Preparation.**

2,604,470—**Hoffmann-La Roche—Phosphorylation of Dihydroriboflavin.**

2,604,472—**Chas. Pfizer—Formation of Streptomycin Azo Salt from Streptomycin Fermentation Broth.**

2,604,473—**Schering—Propylamine Type Antihistamines.**

2,604,488—**Soc. des Usines Chim. Rhone-Poulene—Phenyl-2-Hydroxy-4-Aminobenzoate.**

2,605,210—**Commercial Solvents—Riboflavin Production.**

2,605,266—**Upjohn—Pyrrolidyl Alkyl Esters of Para-Propoxybenzoic Acids.**

2,605,283—**Allied Labs.—P-Alkoxybenzilic Acids.**

2,606,180—**National Research Development Corp. (London)—Extraction of Globulins.**

2,606,181—**Wyeth Inc.—Lactalbumin of Improved Taste for Human Consumption.**

2,606,187—**Merck.—N-Glycosido Berizimidozoles.**

2,606,195—**Wm. S. Merrill Co.—Aryl Pyridyl Carbinol Ethers.**

2,606,197,8—**Parke, Davis—Halosteroid Alcohols and Acids.**

2,606,200—**Abbott Labs.—Amine Salts of Phenylarsonic Acids.**

2,606,201—**Eli Lilly—Lower Alkyl Esters of 0-Carboxy-Phenylthioantimony Dichloride.**

2,606,205—**Wm. S. Merrill Co.—Dihalogen Benzoic Acid Esters of Amino Alcohols.**

Court Cases

2,120,667—**B. Gruskin—Therapeutic agent (Water sol. chlorophyll) Colgate-P-P Co. v. Rystan Co. Dismissed on Stipulation—June 12, 1952 (N. Y.).**

2,120,667—**B. Gruskin, suit for declaratory judgment filed April 7, 1952, D.C., S.D., N.Y., Bristol Myers v. Rystan.**

2,120,667—**B. Gruskin, suit for declaratory judgment field April 1, 1952, D.C., S.D., N. Y., Wenet Dental Mfg. Co., Inc. et' al. v. Rystan Co., Inc.**

2,403,473—**S. Ausbacher, Therapeutic Composition, field April 10, 1952, D.C., S.D., Calif., American Home Products Corp. v. Wilshire-Carthay Corp.**

2,407,096—**J. J. Pfiffner et al—Antianemia vitamin products (Mich.) Parke, Davis & Co. v. Am. Cyanamid Co. et al. Judgment of dismissal for defendant; no infringement. June 10, 1952.**

2,515,898—**H. W. Rhodehamel, Procaine Penicillin, filed Nov. 14, 1951, Chicago, Eli Lilly v.J. T. Baker Chem. Co.**

2,577,710—**E. G. McDonough, Permanent Waving Compositions and Method, filed April 8, 1952, D.C., S.D., N.Y., Caryl Richards, Inc. v. H. I. Davidson.**

2,577,710—**E. G. McDonough—Permanent waving compositions, Rayette, Inc. et al and Caryl Richards et al v. Sales Affiliates—N.Y.—Field June 5, 1952.**

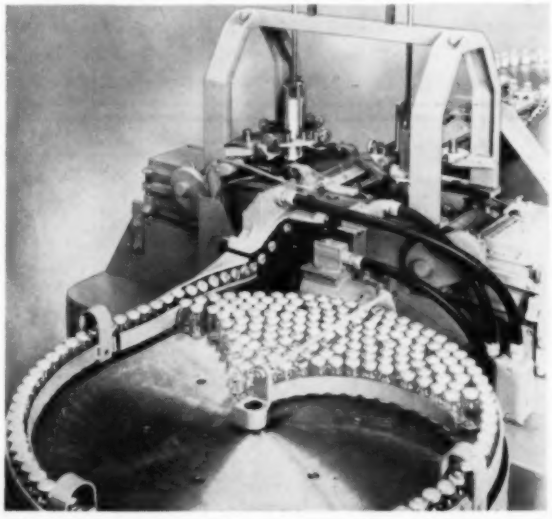
Management Forum

(Continued from page 367)

World Labeler

The makers of World Labelers, Economic Machinery Company, Worcester, Mass., Division of Geo. J. Meyer Manufacturing Co., Milwaukee, are introducing a new automatic Labeler, designated as "Model B," designed especially for high production labeling of antibiotics, drugs and medicines.

The new WORLD Model B Labeler handles cylindrical vials or bottles as small as 5/16" diameter and up,



and applies labels postage stamp size and larger. It applies body labels, front and back labels simultaneously or wrap around labels, at an approximate speed range of 90 to 180 per minute.

Automatic electrical controls assure precise, uniform operation at all times. No label can be picked up unless there is a container there to receive it. When the container is there the label is always ready for it and accurate registration of the label on the container is a certainty. When the Labeler is started up, labels are not applied until the adhesive is at the proper consistency. When the Labeler is stopped the label picker and transfer pad are automatically cleared and the machine comes to rest at the correct position for starting again.

(Continued on page 414)

CALL WH&C for Raw Materials

Phone: CHelsea 3-6048

SESAME OIL, U.S.P.

PEANUT OIL, U.S.P.

FATTY ACIDS all grades

- ☐ LECITHIN
- ☐ LANOLIN
- ☐ CHLOROPHYLL
- ☐ CAUSTIC SODA
- ☐ CAUSTIC POTASH
- ☐ SODIUM CARBONATE
- ☐ STEARIC ACIDS—all grades
- ☐ FOAMING AGENTS

Since 1838, headquarters for oils, fatty acids, detergents and specialties.

SINCE 1838

Warehouses in New York and Newark, N. J.

Welch, Holme & Clark Co., Inc.

439 WEST STREET NEW YORK 14, N.Y.

Industry's Books

(Continued from page 389)

Heterocyclic Compounds, Volume 3, (Polycyclic Derivatives of Pyrrole; Polycyclic Systems With One Nitrogen Common to Both Rings; Pyridine and Related Compounds), Edited by Robert C. Elderfield, University of Michigan, 442 pp., Cloth, John Wiley & Sons, Inc., New York, $12. Heterocyclic Compounds, Volume 4 (Quinoline, Isoquinoline, and Their Benzo Derviatives), 674 pp., Cloth, $17.

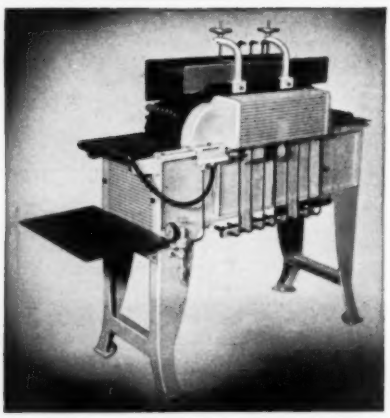
The chemistry of the polycyclic nitrogen heterocycles containing one hetero nitrogen atom has probably been the object of more intense investigation than any othr single group in the broad field of heterocyclic chemistry. The contents of this present volume is divided into five chapters as follows: 1. The Chemistry of Indoles, by Percy L. Julian, Edwin W. Meyer, and Helen C. Printy. 2. Isoindole, by Robert C. Elderfield and Thomas N. Dodd, Jr. 3. The Chemistry of Carbazole, by W. Freudenberg. 4. Pyridine, Quinindine, and Related Compounds, by Robert C. Elderfield and Edward T. Losin. 5. Bicyclic Systems With A Nitrogen Atom Common To Both Rings, by H. R. Ing. A Complete Index is on page 431. Volume 4—Contents: Chapters 1. The Chemistry of Quinoline, by Robert C. Elderfield. 2. Isoquinoline, by Walter J. Gensler. 3. The Acridines, by Adrien Albert. 4. Phenanthridine, by L. P. Walls. 5. Benzoquinolines, by L. P. Walls. Index.

Chemical Engineering Techniques, by B. E. Lauer, Professor of Chemical Engineering, University of Colorado, and Russell F. Heckman, Assistant Professor of Chemical Engineering, University of Colorado, 496 pp., Illus., (1952) Reinhold Publishing Corp., New York, $6.

Emphasizing technique rather than specific equipment, this volume provides an unusually complete and thoroughly rational assemblage of industrially proven methods for conducting chemical manufacturing operations. Its primary purpose is to acquaint both the student and the general reader with the many important considerations involved in the selection of the most suitable method for performing any of the several manufacturing tasks carried on in the chemical and process industries. Each technique is presented as a means to an end, and all are skillfully classified according to function. Here, you will find not just a series of unassociated opérations, but a closely-knit unit having continuity, purpose and organization. Throughout the book, equipment is shown in its true position—that of a tool rather than a method. The reader is continuously shown that, although technique and equipment are sometimes inseparable, technique is fundamentally the more important consideration. This work is ideally suited to all professional engineers and chemists, and to executives in many fields who need a simple, clearly-defined book as a practical means of understanding the field and interest of the chemical engineer.

Useful Drugs, Fifteenth Ed., 262 pp., J. B. Lippincott Co., Phila., $2.50.

This is a selected list of essential drugs with brief discussions of their actions, uses and dosage. It is issued under the direction and supervision of the council on pharmacy and chemistry of the American Medical Association. Useful Drugs may be regarded as being a selected materia medica. It contains authoritative information on the chemical and the physical properties, as well as the actions, the uses and the dosages of well-established medicinal agents.



conveyor type

MODEL W-200

PerfeKtum AMPWASH

Providing a new and improved method for washing ampuls, vials, tubes, etc. The machine feeds, cleanses and discharges 3000 ampuls or vials per hour. Easily adjusted to feed and cleanse a wide variety of sizes and shapes of glass containers.

Send for a copy of the 1952 PerfeKtum catalog

EST. 1922 **POPPER & SONS, INC.**
300 FOURTH AVENUE
NEW YORK 10, N. Y.

FOUNDED T & B 1855

The Symbol of Standardization

GUMS

ARABIC
TRAGACANTH
KARAYA

WHOLE GUM—Cleaned and repacked before shipment.

POWDERED GRADES—Standardized by milling under strict laboratory control.

GRAIN GUMS—Graded to uniformity and standardized.

T & B STANDARDIZED GUMS are your best protection against production difficulties.

All Powder Gums Standardized by Laboratory Control

THURSTON & BRAIDICH
286 Spring Street New York 13
Represented in Chicago by A. C. Drury & Co., Inc.

The Retail Inventory Method And Lifo, by Malcolm P. McNair, Lincoln Filene, Professor of Retailing, Anita C. Hersum, Research Assistant, with the Assistance of H. L. Kleinhaus, First Ed., 446 pp., McGraw-Hill Book Company, New York, Cloth, $7.50.

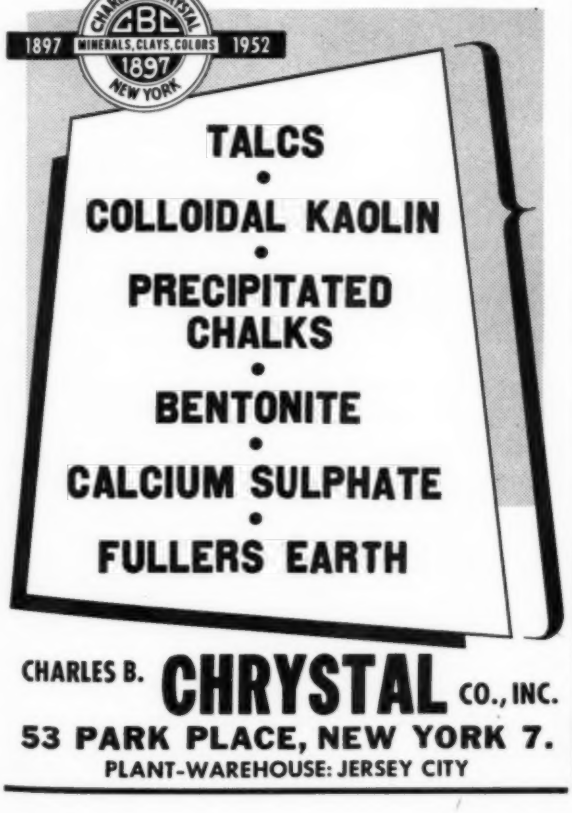
This new book brings together for the first time an exposition of retail merchandise accounting, proceeding from elementary retail arithmetic through the complexities of inventory valuation of both Fifo and Lifo under varying sets of circumstances; a survey of the historical development, both of the retail applications of Lifo; an explicit statement of computations and procedures, with illustrative forms; and a detailed examination of the problems encountered in operation under the retail method and under Lifo. Emphasis is on the experience of department stores and specialty stores, which in the retail field are the principal users of both the retail method and Lifo. Detailed attention is given also, however, to the merchandise accounting problems of retail chain organizations, particularly food chains. For this type of organization the discussion opens up the whole area of dollar-value applications of the Lifo principle without reference to the use of the retail inventory method. The treatment of the retail method is dictated by more than a quarter century of experience in teaching the retail method and in exploring with accountants and controllers the possible ways of handling controversial problems arising out of the retail method. The analysis of retail applications of Lifo is based on a decade of study and discussions with store controllers and treasurers, with Internal Revenue Officials, and with accountants.

Ultraviolet Radiation, by Lewis R. Koller, Ph.D., Research Associate, General Electric Research Laboratory, 270 pp., John Wiley & Sons, Inc., New York, $6.50.

There is a great wealth of information available in the scientific and technical literature covering every aspect of ultraviolet radiation. However, it is often very difficult for the nonspecialist in the field of radiation to find the information he requires. This book is intended to answer some of the questions which confront physicists and specialists in fields other than physics when they find it necessary to work in this portion of the spectrum. Contents: 1. Introduction. 2. Arcs. 3. Incandescent Sources of Radiation. 4. Solar Radiation. 5. Transmission. 6. Reflection. 7. Some Applications and Effects of Ultraviolet. 8. Detectors of Ultraviolet Radiation.

The Measurement And Control of Temperatures In Industry, by R. Royds, M. Sc., M.I. Mech. E., 260 pp., (1952) Chemical Publishing Co., Inc., New York, Cloth, $5.

This covers the latest developments in temperature measurement and control to help the metal, chemical, petroleum, glass and refractory, cement, varnish, rubber, textile industries, breweries and distilleries and numerous other industries in maintaining the highest possible thermal efficiency. The various methods and equipment which are available for the measurement of temperatures in each particular range are discussed. Much space is devoted to the standardization and automatic control of temperatures in industry. Attention is given to improving the quality and reliability of industrial products, an increased rate of production, and the saving of fuel and labor by the application of automatic temperature controls.



NOW
you can determine moisture content
rapidly
accurately
automatically
THE BECKMAN AQUAMETER
The Beckman Aquameter brings added speed and accuracy to routine moisture analyses of such products as pharmaceuticals, alcohols, ethers, solvents, tobacco, antibiotics, food products and a host of other materials sold on a moisture-free basis. It is also extensively used in processing operations where moisture is a key indication.
Other techniques now used for determining moisture (oven-drying, distillation, etc.) are tediously time-consuming, necessitate complex expensive equipment, and require the skill of highly trained technicians experienced in interpreting and identifying gradual color variations. But the simple, fully automatic operation of the Beckman Aquameter reduces titration time to an average of only one or two minutes, and most titrations can be reproduced to within +0.05 ml.
High precision is achieved by the most inexperienced operator, and the automatic feature enables him to perform other duties during the titration, such as preparing sample or tabulating results.
The Beckman Aquameter applies a new principle to the "dead stop" technique, recognized as the most sensitive of the instrumental methods for Karl Fischer titrations, and recommended by the U.S. Pharmacopoeia. Initial adjustment is simple and easily made, and any number of sequential titrations can be carried out with no further checking or setting, simply by adding the sample and turning a knob. The titration is completed automatically and without attention.
BECKMAN INSTRUMENTS control modern industries
FULL DETAILS WRITE FOR DATA FILE No. 41-63
BECKMAN INSTRUMENTS, INC.
SOUTH PASADENA, CALIFORNIA
Factory Service Branches: New York—Chicago—Los Angeles

PRIVATE FORMULA
Tablets and Capsules
BY THE THOUSANDS---
OR BY THE MILLIONS

Over 39 years' experience enables us to render you prompt, accurate, and dependable service in the manufacture of your tablets and hard shell capsules. Our central location expedites delivery to any point in the country. Furnished bulk or packaged.

Vitamin Tablets and Capsules—Tablets—Ointments—Powders

We Invite Your Inquiries

Standard Pharmacal Co.
OF CHICAGO
PRIVATE FORMULA MANUFACTURERS
M. F. Charley, President
847-853 W. JACKSON BLVD. CHICAGO 7, ILL.

MOULDS
LIPSTICK • SANITARY LIPSTICK
• STYPTIC PENCILS •
SUPPOSITORIES • MASCARA

PROGRESSIVE LABELING MACHINE, Inc.
137 West 22nd St., New York 11, N. Y.

ROUGE • COMPACT POWDER
also
PUNCHES FOR TABLETS
DIES

As a service to our subscribers who may not find a bookstore convenient we offer for sale any book published in the United States at regular publisher's price.

BOOK DEPARTMENT
DRUG AND COSMETIC INDUSTRY
101 W. 31st Street New York 1, N. Y.

(*Continued from page 411*)

The air-operated exit door opens, a ram pushes the drum onto the transfer conveyor, the exit door closes, the empty skip-hoist carriage returns to the loading position, and the entrance door opens again to receive the next drum.

The transfer conveyor then moves the drum into the automatic washer where it is cleaned both inside and out, washed, rinsed and blown dry. Automatic doors seal the washer chamber during cleaning. From the washer the drum travels to the automatic lowerator and is fed to the discharge conveyor.

The entire operation from the point of loading the full drum onto the feed conveyor to the point of receiving the empty cleaned drum at the discharge conveyor, is fully automatic. The units are totally enclosed in dust tight casing equipped with plate glass windows and dust sealed doors with glass panels.

For additional information write to the Gifford-Wood Co., Hudson, N. Y.

Tube Filler

A new Colton Tube Filler that brings heavy duty capacity and full range versatility to the low-price field is announced by Arthur Colton Company, Division Snyder Tool & Engineering Company, Detroit.

The new unit is unique in that it is the first heavy-duty, full range tube filler in the low price field, being, in fact, the only low priced tube filler with the heavy construction necessary for handling heavy, ropey materials such as calking compounds, etc. Yet, being a full-range machine it also fills every consistency of cream, paste and liquid as well as powders into tubes, jars, bottles or cans.

It has been designated Colton No. 160 Bench-type Tube Filler and, as the name indicates, is designed for placement on any suitable bench, thus eliminating the cost of the sub-structure; however, a leg assembly is available as extra equipment.

In operation and in capacity, the No. 160 bridges the gap that has hitherto existed between hand-operated tube fillers with a minimum of equipment and high-speed machines with full automatic equipment, including ejectors. It is a companion machine to the popular, high production Colton Tube Fillers, Models 175 and 180, but is lower in cost.

No. 160 is a semi-automatic and requires only one attendant. Operation is so simple that any available help can be trained to use the machine efficiently. Its capacity is 36 tubes a minute; tube sizes range from ⅜″ to 1½″ diameter and up to 7″ in length. Cylinder capacity is 7 fluid ounces and hopper capacity is 15 gallons. Water-jacketed hopper with thermostatically controlled electrical heating is available as extra equipment where required for handling heavier materials which must be reduced to flowing consistency. For materials that tend to settle, a stirring device is available.

The filler head is the same reliable Colton head used on Colton's highest priced units and represents the

results of twenty-five years of development. The folding mechanism is completely new and produces an effective quadruple fold by means of jaws in which the folding forces are applied to the center of the jaws so that there is no jaw deflection. This new folding mechanism is extremely simple in design and operation and is an innovation in the low-priced field. A toggle-action in the crimping mechanism produces a very effective crimp even in large, heavy, aluminum tubes.

Colton No. 160 is the first low-priced tube filler to provide heavy-duty construction, semi-automatic continuous operation, and other features hitherto reserved for higher-priced machines. It will fill a wide variety of products including high and low viscosity lubricants, face creams, effervescent salts, instant coffees, ointments, frozen fruit concentrates, shoe polishes, jams, glues, plastic wood fillers, cheeses, paints and sealing compounds.

READERS' QUESTIONS

COOLING FOOT LOTION: I would appreciate your supplying us with a formula for a cooling foot lotion. We do not seem to get any appreciable cooling effect unless we use an excessive amount of menthol. We would prefer to use isopropyl alcohol as a solvent. Jersey City.

It is my thought that you could get a product such as you wish by incorporating 0.25 per cent of menthol in 50-70 per cent of alcohol. More than this amount of menthol would be irritating. Perhaps a little camphor would improve the cooling effect. Isopropyl alcohol can be used in such a product but you may have difficulty in masking the odor. Of course, suitable perfumes may be available from our advertisers.

TINTED FOUNDATION LOTION: We are interested in some formulas for making a tinted foundation lotion in light, medium and dark. Jamestown.

The coloring of a tinted foundation lotion will depend upon the selection of pigments incorporated into a suitable base such as the following:

Zinc carbonate	30.0	per cent
Glycerine	15.0	" "
Gum tragacanth	0.1	" "
Distilled water	54.7	" "
Methyl-p-hydroxybenzoate	0.2	" "
Coloring matters		sufficient
Perfume		sufficient

If desired, the zinc carbonate may be replaced, wholly or in part by titanium dioxide. Colloidal aluminum hydroxide gel may also be included to improve

Keton
PROTECTIVE DISCS
for your creams

- Retards Evaporation
- Discourages Finger Sampling
- Prevents Transfer of Cream to Lid
- Helps Keep Cream Looking Fresh
- A Custom Finish for About ¼ cent.

R. BUSSE
CHARLES F. HUBBS & CO. 389 Lafayette St. N.Y. 3 N.Y.
Est. 1855

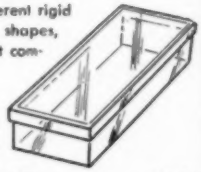
World's Largest Source for Transparent Plastic BOXES!

No. 30
2⅛" x 1¾" x ⅜"
Slide cover

No. 314
5⅛" x 3" x ¼"
6 compartments-hinged

Here is the ideal type container for packaging your pharmaceuticals, medicinal products, cosmetics, etc.

Over fifty molders supply us with 1001 different rigid Polystyrene boxes . . . variety of sizes, shapes, styles . . . hinged, plain, with and without compartments . . . in stock.



No. 32
2¾" dia.
x ⅝" deep

No Mold Cost

OR . . . if you have a special need, we will design a box to meet your requirements.

Our illustrated catalog is available upon request.

No. 34
4⅞" x 1⅞"
x 1" deep

Send us a sample of the product you desire to package. We will recommend the best box without obligation.

BRADLEY INDUSTRIES
1652 N. Damen Ave., Chicago, 47, Tel: ARmitage 6-8198

QUALITY RAW MATERIALS

Our complete stocks guarantee that you can obtain the exact grade and quality for your requirements without delay.

BEESWAX, sunbleached and yellow
Refined U.S.P.

TRAGACANTH GUM, all grades

KARAYA GUM, all grades

STEARIC ACID, fancy triple pressed

QUINCE SEED, Persian, recleaned

also

SPERMACETI WAX CERESIN WAX
MENTHOL

and all other cosmetic raw materials. Samples on request

Write for latest stock list

WALTER H. JELLY & CO.
INCORPORATED
412 N. Western Avenue Chicago, Illinois

CACHALOT®
fatty alcohols

Today, as never before, the demand is for uniformity in chemicals for the processing industries. And today, as never before, it is possible for chemists to specify fatty alcohols that adhere to their exacting requirements from lot to lot. The Cachalot brand name covers the most extensive line of cetyl, oleyl, and stearyl alcohols commercially available in tonnage lots of controlled purity. You will find Cachalot listed in Chemical Materials Catalog. Or, write for technical data and information on today's low prices.

M. MICHEL AND COMPANY, INC.
90 BROAD STREET • NEW YORK 4, N. Y.
since 1926 basic suppliers to chemical manufacturers and distributors
cetyl, oleyl, stearyl: USP, NF & technical

the suspending properties and prevent caking of the powder. The zinc carbonate or a desired pigment mixture plus the perfume is ground with the requisite amount of water-insoluble colors and added to the gum tragacanth which has been pre-swollen in the aqueous-glycerine-preservative mixture.

BEVERAGE EMULSION: One of our customers who manufactures extracts, has asked us the following question: "How much gum arabic would you recommend using per pound of citrus oil in beverage emulsions". Unfortunately, we are in no position to give him a very good answer and we are wondering if you have anything in your files that you could give us so that same could be passed on to customer? Brooklyn.

I think the following procedure from "Emulsion Technology", will provide you with the information you need. The procedure given in this text describes the two stage manufacture of an orange syrup:

Orange oil	**8 oz.**
Gum arabic	**12 oz.**
Water, to make	**1 gal.**

Homogenize or mill on colloid mill to a particle size of 0.1 micron. The syrup for this preparation is made from:

Sugar	**6 lb.**
Water	**1 gal.**

To this syrup add 2 ounces of citric acid and 2 ounces of mixture A. This makes a concentrated stock solution. Add 1½ ounces to 6 ounces, then bottle and carbonate.

Pharmacy and Health

(*Continued from page 323*)

fully predicted that cancer will ultimately yield to successful treatment.

And may I suggest since November is around the corner that these great advances in public health have come about under the majestic canopy of the practice of free enterprise in the public health area. Untrammeled, at least in essence, by political interference, the great drug houses of America, and the pharmacists of America have provided physicians, the surgeons and other practitioners with standardized drugs the like of which have never been known before and the profession of medicine gladly acknowledges these contributions.

There is a reat deal of inaccurate thinking and inaccurate writing about the high cost of medical care in America today, and that such cost to the individual has even exceeded the inflationary prices which obtain in other areas such as clothing, food and housing. Actually, this is not so! On the contrary, medical services in every area are less when intelligently judged, than they were a quarter of a century ago.

From the authentic hospital record of a pneumonia patient of ordinary means and who was hospitalized

because of the seriousness of his attack of lobar pneumonia—these are figures that obtained in 1927; Total hospital bills, including nurse, room and board and medical treatment for five weeks—$385.50; total absence from gainful employment (including five weeks convalescence), $350.00 (since there was not in this particular case any provision for payment for days lost). Actually, approximately a *thousand dollars* ($1000.00) was spent before this patient was returned to work.

Today pneumonia may be treated at home and the patient returned to work within two weeks, and while I have no figures to apply except conjectural figures, it is obvious that the expenses contracted would be less than one-tenth of those known to have existed in 1927. This example is multiplied a thousand fold!

In the United States approximately five hundred million prescriptions are compounded by community pharmacists, which would mean about three prescriptions per year per individual and the cost, even including the new and expensive drugs, would be less than ten dollars per year. This is certainly not a burdensome figure!

The prices of most of these prescription medicaments are very well established by the drug manufacturers, and while to the uninitiated the price of some prescriptions may seem high, there is always a controlling reason behind such prices. It cost one manufacturer nearly seven million dollars to develop a drug of exceeding usefulness and now well established, seven million dollars for research, before a single commercial package was sold. Obviously, that seven million dollars had to be liquidated somehow, and after it had been liquidated the price to the public of the medicament mentioned was reduced many fold. A case in point, and an eloquent one, is that when Penicillin was introduced and made practical through American initiative and industry in 1942 its cost was $40.00 per one hundred thousand units, and today for the same quantity the price is two cents. Obviously, the patient has gained the benefit of this reduction. I wonder had this been a federal project whether such a remarkable economy could have been brought to pass. The great drug houses of America employing thousands of workers spend over $100,000,000.00 in research alone.

Certainly no criticism can be leveled at public health services in their pharmaceutical fees when the average cost of prescriptions per *family* in the United States is less than $20.00 per year.

After the increase in the span of life comes in sequence an increase in the aged population (i.e. those over 65). Statisticians tell us that we shall have approximately thirty million such people in the United States in the year 2000, contrasted with about twelve million aged people in America today.

Any one studying the welfare, health and otherwise, of the American citizen still has the need for recognizing our growing aged population who will need more medical care than ever since old engines require increased attention in the physical body as in the

FOR FAST FILLING OF ANY SIZE BOTTLE

From drams to gallons . . . heavy or light liquids, there's a HORM model to do the job with maximum efficiency. Standard models use rotary type pumps, air-cooled, and self-oiling with automatic cut-off.

WRITE FOR CATALOG of Precision Engineered Liquid Processing Equipment.

HORM
PORTABLE VACUUM BOTTLE FILLER

F. R. Hormann & Co., Inc.
17 Stone Street Newark 4, N. J.

Old Empire

Don't Gamble with New Items

Avoid unnecessary costs and equipment investment. Charges below your own overhead made possible by specialization.

- SHAVE CREAMS
- CASTILE SHAMPOO
- TOOTH PASTE
- CREAM SHAMPOO
- DEODORANTS
- PHARMACEUTICALS
- HAIR PREPARATIONS
- BEAUTY CREAMS
- ALCOHOLIC PREPARATIONS

AUTOMATIC EQUIPMENT HANDLING
Bottles • Jars • Collapsible Tubes

Please notice: We do not do color cosmetics, but will gladly recommend specialists for this work.

OLD EMPIRE MFG. CHEMISTS, INC.
31-33 COES PLACE • NEWARK 2, N. J.
MArket 2-2676

How to produce more popular products

Always remember—
Never forget

NORDA MAKES GOOD SCENTS

Come to Norda if you want to make good scents pay off. Norda knows your needs. Norda scents make sales. Write today, right away, for free samples and catalogue.

Norda ESSENTIAL OIL AND CHEMICAL COMPANY, INC.
601 West 26th Street, New York 1, N. Y.
CHICAGO LOS ANGELES ST. PAUL MONTREAL
TORONTO HAVANA MEXICO CITY
LONDON PARIS

Perfume Album
by Jill Jessee

to instruct — *salesmen*, *salesgirls*, *traveling representatives*, *training directors*

to inspire — *copywriters*, *publicity directors*, *technical staff*

A world of valuable information and inspiration in this book for reference by every member of your company. "Perfume Album" tells the story of perfume raw materials in romantic travelogue style.

Order in quantity at very worthwhile saving to present at sales meetings, training classes, any company affairs! Discounts available on six copies up.

Inquire
Book Department
Drug & Cosmetic Industry
101 West 31st St., New York 1, N. Y.
LOngacre 3-3177

automobile body or any other body. Also, there is still an indigent class of people not adequately reached by the medical services, and they should be the concern of every local government and aided without undue interference by the federal government.

That seems to me to symbolize the *United States of America*—each "State" ready to do its own work yet willing when necessary to concede to the joy and to the challenge of the work "United."

Those who think of evolution as progress frequently forget that the projecting curve carries on into the long tomorrows, and perhaps with an acceleration of its pace. Could we sit a hundred years hence and think of meantime progress of research and achievement in the healing arts, we would more than likely be stunned by its results and by its pace. And will the world of tomorrow be a better world to live in? The pharmacists of today are doing what they can to try to make it so.

Pharmacology and Foods, Drugs and Cosmetics

(*Continued from page 325*)

(3) full directions for use.

(b) Pharmacological, which includes

(1) degree of hazard to man in each formulation and for each use,

(2) cautions for application,

(3) residue hazard,

(4) description of toxicity and antidote.

The collection of entomological data is a staggering undertaking but beyond the realm of this presentation. The pharmacological data, you will note, include hazards under different use conditions and food residue. Since certain uses, such as space spraying, may involve public health, the U. S. Public Health Service gets into the act. Since food residue is involved, the Food and Drug Act is involved also, but not at the start. First in order is getting the detailed label approved by Agriculture. In actual practice the scientific personnel of these agencies are to be congratulated in the joint operations organized to expedite this phase. If the label is finally approved the product may be marketed, but if a food residue is involved the Food and Drug Act officially regulates the tolerance permitted and hence, in effect, the use of the product. Perhaps the drug problems aren't too bad after all. Certainly the responsibilities of the pharmacologist, both in experimental design and evaluation, are heavy. Fortunate and thrifty is the management which early seeks the active cooperation of the pharmacologist and authorizes him to plan and conduct the program necessary to discharge this responsibility.

It is to be hoped that this one condensed example will serve to illustrate the similarity of pharmacological responsibility in the various industries, for this is the one point I want to emphasize. Realization of this by management in these industries is extremely important at this time for pharmacologists in all branches are on the firing line in a struggle vital to every one concerned. It is significant that for the first decade under the 1938

Act, including the tumultuous war years, all segments of the industries involved made great progress without undue hazards to the public. In other words, the laws and enforcement were functioning.

Beginning in about 1948, however, there developed a series of events which deserve deliberation. Pharmacologists, toxicologists, and medical directors are frequently meeting in discussion groups to consider the significance and to evaluate the problems implied by these events, a review of which will serve to indicate the necessity for broader inter-industry consideration.

The events referred to may best be described as an ever-increasing administrative and legislative paternalism, with a few "me too's" thrown in. The chronology is not particularly significant but the trend is definite. Pharmacologists and medical directors have noted a gradual increase in requirements, by administrative decision, for New Drug Applications and product labeling. With these, this group is familiar. This applies not only to the scientific but equally to the legal interpretation of "deceptive" and "misleading". Eventually there came the Humphrey-Durham Amendment and the proposal of the Miller Amendment which would provide a New Chemical Section similar to the New Drug Section. In the interest of this amendment the so-called Delaney Committee (House Select Committee to Investigate the Use of Chemicals in Food Products) has conducted hearings over the past two years. So far they have decided that no new legislation is necessary to regulate fertilizer. I won't comment on that, facetiously or otherwise.

The bread hearings were conducted in 1950, with a decision excluding the so-called "softeners". Take time to determine how many scientists feel that these agents represent a hazard under the conditions of use, especially if the bread were labeled to indicate their presence. The expressed reason for not allowing their use was that safety was not adequately proved and that they were deceptive. I would guess that the latter carried the real weight, with lack of safety being a convenient hook to hang the hat on. Don't think that this is someone else's problem. It could happen to your proprietary industry in the interest of protecting the public from the deceit of self-medication.

The insecticide hearings were also held in 1950—during the hot Washington summer, to be specific. These hearings were called under the provisions of the 1938 Act to determine which insecticides were hazardous and to set tolerances for these if their necessity for use could be established. As of this time no decision, and hence no tolerances, have been released. Certainly the scientific data — chemical, entomological, and pharmacological—could have long since been evaluated on their scientific merit. Perhaps it is not mere coincidence that the Delaney Committee hearings started at about the same time as the tolerance hearings and that their recommendations are not yet in either. The release of public health protecting tolerances under the present Act might make the course of newer, more paternalistic legislation a little more difficult.

NEWS ABOUT

CETYL ALCOHOL

Our new N. F. grade is now available — completely free from foreign odors. So highly refined that a 5 year shelf life *without anti-oxidants* is the rule . . . not the exception. Meets Toilet Goods Association specifications with ease.

Other Aceto Products:

Stearyl Alcohol, USP
Oleyl Alcohol, NF
Stearyl Chloride
Cetyl Chloride
Chlorophyll
Magnesium Trisilicate, USP

NOW! A highly refined CETYL ALCOHOL at no increase in price. Write for samples and technical bulletin 209. Complete products list upon request.

ACETO
CHEMICAL CO., INC.
82 Beaver Street • New York 5
Digby- 4-9760

Filling

TUBES, BOTTLES, JARS, *and* CANS

FASTER...EASIER

Here is a versatile, quality-built machine...engineered to the highest sanitary standards . . . that has many uses in both large and small plants. Dispensing capacity adjustable up to one pint per stroke. Handles liquids, semi-liquids, creams, pastes and greases. Nozzles available for filling practically all types of containers . . . jars, bottles, cans or tubes. The machine is fast, easy to operate, sanitary, and easy to clean. Write today for complete details and reasonable prices.

ROCKFORD Anderson BROS. MFG. CO. ILLINOIS

Ask for Bulletin No. 9-24

ANDERSON BROS. MFG. CO., ROCKFORD, ILL.

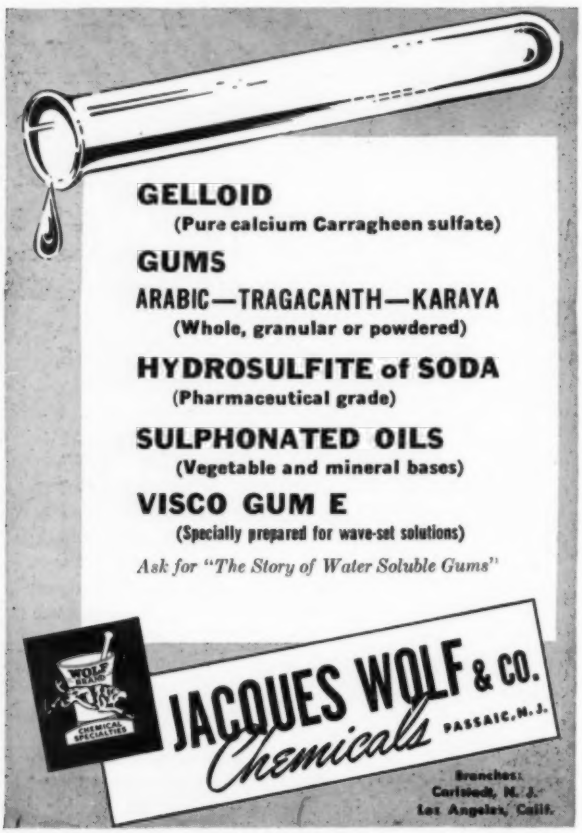
Estrone USP Synthetic or Natural

- Anhydrohydroxyprogesterone USP
- Chorionic Gonadotropin
- Desoxycorticosterone Acetate USP
- Estradiol USP
- Estradiol Benzoate USP
- Estrogenic Substance
- Estrone USP
- Choline Bitartrate
- Choline Dihydrogen Citrate
- Tri Choline Citrate
- Ethinyl Estradiol USP
- Methyl Testosterone USP
- Methylandrostenediol
- Pregnenolone
- Progesterone USP
- Testosterone USP
- Testosterone Propionate USP
- Prophenpyridamine Maleate
- Phthalylsulfacetimide
- Sulfacetimide
- Sodium Sulfacetimide

A dependable source for hormones and fine chemicals

VITAMERICAN OIL CORP.

1 JOHN STREET, PATERSON 2, NEW JERSEY



These are only a few examples; others could be cited. In addition to these, other groups have entered the scene. The National Research Council has established a Food Protection Committee and the American Medical Association has established a Pesticide Subcommittee. Undoubtedly these are desirable and constructive groups, but they do not simplify the pharmacologist's problems. His major problems, regardless of industry affiliation, are first, the ever-increasing complexity of his own profession, and second, in the field of regulatory responsibility the confusion added to the picture by legal interpretations, political considerations, and sociological philosophies.

In spite of this, the average pharmacologist is highly satisfied in his profession and willing to assume the new responsibilities. In view of my own unique service to the various industries and intimate contact with their problems, I should like to add that these problems are analogous and that they demand real inter-industry consideration at management level, as well as at the scientific level.

Pharmaceutical Responsibility

(*Continued from page 311*)

to the fullest extent that, even though the medical profession is mainly responsible for the efficacious use without undue harm after the product has been released for general use, he cannot shift his entire responsibility to the medical profession. He must do more than simply produce and sell the same product which he first offered. From the point of release of the product the responsibility is a joint one. The physician makes the results of his experience with the product known and the manufacturer sees that this information—good or bad—is brought to the attention of the entire medical profession and, at the same time, takes such steps as are necessary to correct his labeling, his product, his dosage forms, his packaging, or anything else which the reports from the medical profession indicate are in need of correction.

Pharmaceutical manufacturing today is a vastly different endeavor that it was just some ten or fifteen years ago. Within that space of time the industry has moved with extreme rapidity into new uncharted waters. They have left behind the old-time, largely empiric remedies which they then supplied to the medical profession and are now supplying in undreamt of volume, a long list of extremely potent remedial agents which are, in the main, specific in their action against a long list of diseases. This has resulted in the pharmaceutical manufacturer leaning very heavily upon the medical profession for aid in the development and introduction of his products which are apt to be quite dangerous, and it has also resulted in the medical profession leaning very heavily on the pharmaceutical manufacturers to keep them abreast of these new developments and to keep them aware of the dangers of these new remedies as come into broader use.

Thus this industry has reached the stage where

complete cooperation between the industry and the medical profession is essential to both the industry and profession. No longer can a pharmaceutical manufacturer who hopes to keep abreast or ahead of the procession do so without taking the medical profession into his fullest confidence. And neither can members of the medical profession hope to be in the van without the aid of the pharmaceutical manufacturers. It is a two-way street with the rewards to manufacturers in this industry being great acceptance of the new products from their research laboratories.

How to Get a Package for Less Money

(Continued on page 315)

facturers schedule of orders for his other customers.

* * * *

To sum up, a better understanding should exist between the purchasers and their package suppliers. As an example the supplier can make many suggestions to cut the cost of any particular box without destroying the glorified box the designers originally dreamed of. So often the art department of a cosmetic manufacturer designs a package entailing the use of too many hand operations and thus "out-prices" the box. A good box man will offer modifications to achieve the same results, such as changing the layout of the items, so that the box will be of a size that can be produced on an automatic wrapper, or maintaining the idea of having a shallow box to better display the contents without the necessity of an extension base. A rim inside the cover will achieve this end. Naturally a hinged cover adds hand labor cost. A "lift-off" cover makes possible a substantial saving in cost, eliminating both the need for printing inside of the cover, and a ribbon stop. Cover papers of a light shade can be printed; a darker shade will require expensive leaf-stamping. Or a color can be saved in printing by using a fancy paper.

On the other hand a "gimmick" of insignificant cost might be added that will add a great deal of interest, and promote quick attention. Here it is important that skill be used, as many times a tricky construction can hurt the sale rather than help it. A scored die-cut platform, instead of a full wrapped platform, will eliminate an extra part and a more costly die-cutting operation. Some excellent results have been achieved by clever art work to simulate a ribbon, or other decoration, instead of using actual materials which require expensive hand-attaching operations. Many more cost saving ideas can be offered by a competent "packageteer" using ingenuity that will give the customer the package he wants within his budget. Inspiration plays an important part in the original concept of a new product and clever packaging puts it over.

In recent years much progress has been made by set-up box manufacturers in producing "silent salesmen" at a reasonable cost. But if you really want genuine plush velvet and peacock feathers we can have a lot of fun with them too!

How to produce more popular products

Always remember–
Never forget

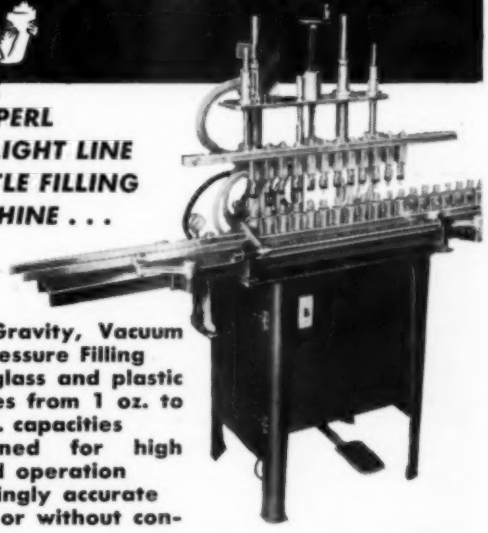
NORDA MAKES GOOD SCENTS

Come to Norda if you want to make good scents pay off. Norda knows your needs. Norda scents make sales. Write today, right away, for free samples and catalogue.

Norda ESSENTIAL OIL AND CHEMICAL COMPANY, INC.
401 West 26th Street, New York 1, N. Y.
CHICAGO LOS ANGELES ST. PAUL MONTREAL
TORONTO HAVANA MEXICO CITY
LONDON PARIS

NEW MODERN CONSTRUCTION!
AMAZINGLY ACCURATE!

THE PERL STRAIGHT LINE BOTTLE FILLING MACHINE . . .



- **For Gravity, Vacuum or Pressure Filling**
- **Fills glass and plastic bottles from 1 oz. to 1 gal. capacities**
- **Designed for high speed operation**
- **Amazingly accurate**
- **With or without conveyor**

Also Can Filling Machines, Tube Filling & Closing Machines and Bottle Cleaning Machines

PERL MACHINE MFG. CO.
68 JAY STREET BROOKLYN 1, N. Y.

Professional Service

***ARLINCO RESEARCH LABORATORY, INC.**

Research, Formulation and Application to the Industry. Ethical Pharmaceuticals, Drugs, Cosmetics and Perfumery.

333 W. 52nd St., New York 19, N. Y.
PLaza 7-3861

*A-R-L-inco means: Applied Research Laboratory, Incorp.

BJORKSTEN RESEARCH LABORATORIES

Research on contract basis
Arrangements for dermatological testing

CHICAGO, ILL. - 13791 S. Ave. O
MADISON, WIS. - 323 W. Gorham St.
NEW YORK, N. Y. - 50 E. 41st St.

EVANS RESEARCH & DEVELOPMENT CORP.

Chemical research—processes—products
Special facilities for cosmetics

SEND FOR BOOKLET "D"

250 E. 43rd St., N. Y. 17, N. Y. MU. 3-0071

RONALD CLARKSON
Tablet Consultant

A complete Advisory Service on New Tablet Products–New Tablet Applications–Special Coating Problems–Formula Developing–Production Methods–Plant Layout. Pharmaceutical–Chemical–Industrial–Food–Confections –Cosmetics–Toiletries.

1905 GRANT AVE., PHILADELPHIA 15, PA.
ORchard 3-4105

LEBERCO LABORATORIES

Hormone Assays • Drug Assays
Pharmaceutical and Cosmetic Research

Sterility Tests • Toxicity Studies

Send for information concerning our services
125 HAWTHORNE ST., ROSELLE PARK, N. J.

RESEARCH LABORATORIES
Fred D. Snell INC.
CHEMISTS · ENGINEERS
29 WEST 15TH ST. NEW YORK 11, N.Y.
WA. 4-8800

SEIL, PUTT & RUSBY, Inc.

Analytical, Consulting, Research Chemists
Est. 1921. Specialists in Drugs, Cosmetics, Foods

Earl B. Putt, President and Director
Alfred S. Moses, Vice President
Stephen S. Voris, Ph.D., Chief Chemist

Formerly Experts for U. S. Dept of Agriculture
QUALIFIED COURT EXPERTS

Analyses Made — Formulas Developed
Research Investigations Conducted
Spectrophotometer Assays of Organic Products
CHEMICAL AUDIT — CHECK ANALYSIS
CONTROL TESTING

Ask for Estimates, Quotations—No Obligation

Lab's: 16 East 34th St. New York 16, N. Y.
Telephone: MUrray Hill 3-6368

Business Opportunities

Large Quantity
GELATINE CAPSULES
LILLY'S YELLOW #1 and #2
75c per M
CHEMICAL SERVICE CORP.
90-02 Beaver St. New York 5, N. Y.

Machinery and Equipment For Sale

UNION
Rebuilt Machinery
Established 1912

MODERN REBUILT EQUIPMENT
At Tremendous Savings

International Stainless Steel Straightline Vacuum Filler, 160 per minute.
Resina Models S and LC Auto. Cappers.
New Way MH Wraparound Labeler.
S. & S. G1, G2, G6 and HG88 Auger Powder Fillers.
Day and Robinson 800, 1500, 2000 lbs. Dry Powder Mixers.
Acme 150 gal. S. S. Jacketed Mixing Kettle.
J. H. Day 20" x 39" 2 Deck, Allis Chalmers, Great Western Sifters.
Baker Perkins, Day, Read 15 to 150 gal. cap. Double Arm Mixers.
Pony Mixers—15 and 8 gal. caps.
Mikro 1SH, 3TH, 4TH Pulverizers.
Hobart, Read, Glen 30-120 qt. Mixers.
B. P. Jumbo-Type 3500 gal. Steam Jacketed, Double Arm Sigma Mixer.
Stokes 2C Cream Filler and Closer.
Filler 4-Head S. S. Piston Filler.
Capem E4F 4-Head Auto. Capper.
Pony M and ML Labelrites.
Ermold, World S. A. & Auto. Labelers.
F. J. Stokes Eureka Tablet Machine.
Colton 2 and 3 Rotary Tablet Machines.
Island Equipment Bottle Unscrambler.
Triangle G2C, A6CA Fillers.
Hayssen 3-7, Scandia Pkge. Wrappers.
Campbell BW6 Auto. Wrapper.
Package Machy. FA, FA4 Wrappers.
Standard Knapp No. 429 Carton Sealer.
Jones Auto. & Ceco Cartoning Units.

IMMEDIATE DELIVERIES

Write Today for Details and Prices

UNION STANDARD EQUIPMENT CO.
318-322 Lafayette St., New York 12, N. Y.

FOR SALE: 3-A MF Glen Mixers, 340, 160, 120 qt. sizes; Patterson S/S Kneadermaster, 110 gal. capacity; Colton 17A Tube Filling, Closing & Crimping Machine; Stokes DD2 Tablet Machine; Colton No. 4 Auto. Tube Closer & Clip Fastener; 2-Brightwood Box Machines; Munson 2,000 lbs. Rotary Batch Mixer; 1-Day 1,850 lbs. & 1-1,250 lbs. Spiral Ribbon Mixers; Capem S1F Capper; 8-Shriver Plate & Frame Filter Presses, 30", 24", open or closed delivery; 24" closed & 30" open delivery Aluminum Filter Presses; Std. Knapp Self-adjusting Gluer-Sealer & Comp. Unit; 17-S/S Kettles up to 500 gal., some with agitators; 1-Dopp 150 lbs., 2-100 gal. Cast Iron jktd. agit. Kettles; 53 Aluminum Rectangular Closed Storage Tanks, including 800, 600 & 200 gal. capacities. ONLY A PARTIAL LISTING. Save time and money by sending your inquiries to CONSOLIDATED PRODUCTS CO., INC., 20-21 Park Row, New York 38, N. Y. Phone: BArclay 7-0600.

FOR SALE: Day 40 and 15 gal. Pony Mixers. Dryers & Ovens. Vac. pumps. Tablet machines 1" to 3". Powder, Paste & Liquid Mixers. Sifters. Powder & Paste Fillers. Labelers. Grinders, Hammer Mills, Roller Mills, Pebble, Ball & Jar Mills. Portable Elec. Agitators, Filter presses. Centrifuges. Kettles & Tanks, Stainless, Glass Lined, Copper, Alum., & Steel. Colloid Mills. Convevors and Elevators. Send for Bulletin. We buy your surplus machinery. STEIN EQUIPMENT CO., 90 West Street, New York 6, N. Y.

Machinery and Equipment For Sale

FOR SALE: Eppenbach Agi Mixers, stainless steel with 150 gallon S.S. Jack. Kettles; Stainless Steel Kettles 125 to 950 gallons with agitators; Stokes "B-2" and "DS-3" Rotary and "F" single punch Tablet Machines; Six Coating Pans, 38" Copper and Stainless; Stokes 43A S.S. Granulator; 3-15 gallon Day & Ross Pony Mixers; 2 Ross 50 gallon change can Mixers 5 H.P. 3 Ph. Exp. Pf. Motors. Stainless Steel Tanks; Horizontal Spiral Mixers; Portable Agitators; Screens; Fillers; Labelers, etc. *New S.S. Spiral Mixers to order.* Send us your inquiries. We buy your surplus. THE MACHINERY & EQUIPMENT CORP., 533 West Broadway, New York 12, New York. GRamercy 5-6680.

FOR SALE: Stokes Oscillating Granulator, Granulating Mixer, Rotary Tablet Presses Models B-2 and D-3. Klein Stainless Steel Filter, 97 sq. ft. Also Stainless Steel Tanks and Steam Jacketed Kettles. Powder Mixers No. 30 to No. 200. PERRY EQUIPMENT CORP., 1429 N. 6th St., Phila. 22, Penna.

FOR SALE: Complete Pneumatic Scale packaging line consisting of carton feeder, former, bottom sealer, weigher, top sealer and tight wrap, speed 40-45 packages-per-minute; Stokes double drum roll drier 48" x 108"; Buffalo double drum roll drier 42" x 120"; electronic metal detection equipment and radio frequency sterilizer for cereal products. Box S-3, DRUG AND COSMETIC INDUSTRY.

Machinery Wanted

WANTED: To round our production; Automatic Filler & Closer for collapsible tubes, Fitzpatrick S/S Comminutor, Tablet Counter, and high speed Packaging Line. Give full details and price. Box N-5, DRUG AND COSMETIC INDUSTRY.

Help Wanted

WANTED: Pharmaceutical chemist, B.S. or M.S., experienced in Product Development, Tableting; Formulations. Excellent opportunity, Rochester, New York location. For details write Box S-5, DRUG AND COSMETIC INDUSTRY.

Situations Wanted

FACTORY SUPT.—presently employed by Cosmetic House. Equipment selection and operation for bulk production and packaging. Amiable employee-employer relationship. Excellent references within Cosmetic Industry, 15 yrs. experience, college degree, age 40. Will re-locate. Correspondence invited. Box S-4, DRUG AND COSMETIC INDUSTRY

Business Opportunities

ACTIVE PARTNER WANTED: Commercialize new therapeutic invention. Inexpensive heat control attachment for rubber hot water bag. Repeat sales. Chain, drug, canvasser, premium outlets. Will monopolize market. 35,000,000 units yearly. $5,000 investment for 50% interest. State business experience. Box S-2, DRUG AND COSMETIC INDUSTRY.

WANTED

PROMOTOR.—In the course of research work in connection with medicinal ointment vehicles, a research laboratory incidentally developed a compound which has qualities which should be of immense import to the cosmetic industry.

With proper promotion it should shortly dominate the sale of an important cosmetic item.

Preferred, as a promotor, is an organization which is now in the cosmetic field; which is financially able and willing to invest an adequate sum in a national advertising campaign; and with production facilities capable of handling the demand which such a campaign would create.

The promotor must also be willing to plow back a part of the profits into further research, to make the basic factors involved in the new item available for certain medicinal uses.

Box S-1, DRUG AND COSMETIC INDUSTRY, 101 West 31 St., New York 1, N. Y.

Use **LABELS** AND **SEALS..**

by

JOHN HORN

835 - 839 TENTH AVENUE

NEW YORK 19, N. Y.

FOR OVER FIFTY YEARS

for greater sales appeal

METAL • EMBOSSED • ENGRAVED

DIE STAMPING FOR BOXMAKERS

The C. E. Ising Corporation

Manufacturing Chemists

AROMATIC PRODUCTS

"I.G." ("ISING" GERMICIDE)

SOAPS FOR KENNELS AND INDUSTRIES

MASKING ODORS FOR INDUSTRIES

FOUNDED 1908

FLUSHING NEW YORK

Aromatic Chemicals

FOR PERFUMERY AND FLAVORS

Isopropyl Quinoline • Isobutyl Quinoline

Ethyl Anthranilate • Isobutyl Anthranilate

Diacetyl • Acetyl Propionyl • Acetoin

FAIRMOUNT

CHEMICAL CO., INC.

600 FERRY STREET • NEWARK 5, N. J.

Lower Your Packaging Costs via Modern Packaging Machinery

WRAPPING MACHINES

BANDING MACHINES

BUNDLING MACHINES

We Will Gladly Send Data and Prices

Scandia MANUFACTURING COMPANY

NORTH ARLINGTON NEW JERSEY

---

falba

Reg. U. S. and Foreign Countries

"THE HEART OF LANOLINE"

THE OXYCHOLESTERIN ABSORPTION BASE

Suggested Formulae on Request

Pfaltz & Bauer, Inc.

EMPIRE STATE BUILDING, NEW YORK

High Grade COSMETIC Powders

Tamms

● Powdered Talc ● Infusorial Earth

● English Kaolin ● Clay and Silica

● Precipitated Chalk

Send today for prices and samples.
Write us about your special needs.

Dept. RM-11

TAMMS INDUSTRIES, Inc., 228 N. LaSalle St., Chicago 1

BOOKS:

As a convenience to our subscribers we offer the books of all publishers—technical and non-technical—at the regular published price—postage paid anywhere.

Consult our BOOK DEPARTMENT -- direct your inquiries to

Book Department
Drug & Cosmetic Industry

101 West 31st St., New York 1, N. Y.

LOngacre 3-3177

MOULDS

for LIPSTICKS MASCARO SUPPOSITORIES STYPTIC PENCILS

and **DIES** for ROUGE COMPACT POWDER

Write for Catalog

A. CAVALLA, INC. 163 WEST 18TH STREET, NEW YORK, 11, N.Y.

CAMILLI, ALBERT & LALOUE S.A.

Grasse, France **Established 1830**

Natural Perfumer's Materials Stocked by Our American Affiliate

Mimosa

Jasmin

Tuberose

Rose

ABSOLUTES

BROOM (Genet)
CARNATION
CASSIE ANCIENNE
CLARY SAGE
EVERLASTING (Immortelle)
JASMIN Maximarome
JASMIN Pommades
JASMIN Chassis
JASMIN Benzoi
LAVENDER Maximarome
MIGNONETTE
MIMOSA Maximarome
MOUSSE D'ARBRE Maximarome
MOUSSE D'ARBRE Colorless
NARCISSUS of the Plains
NARCISSUS of the Mountains
OAKMOSS YOUGOSLAVIAN
ORANGE Maximarome
ORRIS
ROSE DE MAI Maximarome
TUBEROSE Maximarome
TUBEROSE Pommades
VIOLET LEAVES Maximarome
YLANG YLANG A

CAMILLI, ALBERT & LALOUE, INC.

14 East 48th Street **New York 17, N. Y.**

Phone PLaza 3-6070

ADVERTISING INDEX

Aceto Chemical Co., Inc. 419
Advertising Plastics Company 408
American Cholesterol Products, Inc. 386
American Cyanamid Company ... Insert facing 297
Anderson Bros. Mfg. Co. 419
Aromatic Products, Inc. 282

Baker & Adamson Products, General Chemical Div., Allied Chemical & Dye Corp. 283
Baker Chemical Co., J. T. 346
Baker & Bro., H. J. 370
Beauty Fashion Magazine 292
Beckman Instruments, Inc. 413
Bertrand Freres, Inc. 296
Bradley Industries 415
Bush & Co., W. J. 398

Calco Chemical Division 368
Calumet Manufacturing Co., Inc. 330
Camilli, Albert & Laloue, Inc. 424
Carr-Lowrey Glass Co. 378
Cavalla, Inc. A. 423
Chiris Co., Inc., Antoine 281
Chrystal Co., Inc., Charles B. 413
Continental Can Company 332
Cosmetries, Inc. 406
Crown Cork Special Corp. ..... Insert facing 336

Devold Oil Company, Peder 404
Distillation Products, Inc. 289
Dodge & Olcott, Inc. 299
Dow Chemical Co. 342, 354
Dreyer, P. R., Inc. 295
Drug & Cosmetic Review 304
Dunkel & Co., Inc., Paul A. 376
du Pont de Nemours & Co., Inc., E. I. ..... Insert facing 304
du Pont de Nemours & Co., E. I., "Kinetic" Chemicals Division 334-335
Durlin Co. ..... Insert facing 280
Duveen Soap Corp. 399

Economic Machinery Company 409
Emery Industries, Inc. ..... Insert facing 296
Ertel Engineering 407
Exact Weight Scale Co. 405

Fairmount Chemical Co. 423
Felton Chemical Co., Inc. ..... Insert facing 288
Firmenich & Co., Inc. ..... Insert facing 289
Florasynth Labs., Inc. 372
Fritzsche Brothers, Inc. ..... Insert bet. 384-385

Gair, Robert Co., Inc. 339
General Electric Company—Carboloy Dept. 356-357
Givaudan-Delawanna, Inc. ..... Insert bet. 280-281
Glass Products Co. 406
Glycerine Producers' Association 286
Greeff & Co., R. W. 388

Haring Equipment Corp. 388
Hazel-Atlas Glass Company ..... Insert facing 337
Hercules Powder Company ..... Insert facing 281
Heyden Chemical Corp. ..... Insert facing 345; 350
Hinde & Dauch Paper Co. 287
Hoffmann-La Roche, Inc. 273, 390
Hooker Electrochemical Co. 297
Hormann & Co., F. R. 417
Horn, John 423
Hubbs & Company, Charles F. 415
Huisking & Co., Inc., Chas. L. 404

Inland Alkaloid Co. 388
Innis-Speiden Company 301
International Minerals & Chemical Co. 403
Ising Corp., C. E. 423

Jelly & Co., Walter H. 416

Kelton Cosmetics Co. 402
Kessler Chemical Co. 380
Kimberly-Clark Corp. 337
Kimble Glass ..... Insert facing 329
Kolmar Laboratories 278
Koster-Keunen Mfg. Co., Inc. 376

Lautier Fils 288
Lueders & Co., George 374

Magnus, Mabee & Reynard, Inc. 280
Mallinckrodt Chemical Works ... Insert facing 305
Maschmeijer, A., Jr. 276
Merck & Co., Inc. 298
Michel & Company, Inc., M. 416
Monsanto Chemical Company 302

National Aniline Division, Allied Chemical & Dye Corp. ..... Insert bet. 288-289
Neumann, Buslee & Wolfe, Inc. 400
New Jersey Machine Co. 362
New Jersey Zinc Co. 401
New York Quinine & Chemical Works, Inc. 290
Norda Essential Oil & Chemical 408, 410, 418, 421

Old Empire Mfg. Chemists, Inc. 417
Orbis Products Corp. 291
Owens-Illinois Glass Company ... Insert facing 344

Package Machinery Company 364
Pantone Press 410
Parsons-Plymouth, Inc., M. W. 380
Penick & Co., S. B. 279
Pennsylvania Glass Products Co., Inc. 338
Perfume Album 418
Perl Machine Mfg. Co. 421
Pfaltz & Bauer Co., Inc. 423
Pfizer & Co., Inc., Chas. ..... Cover 4
Plax Corporation Subsidiary of Emhart Mfg. Co. 340-341
Pneumatic Scale Corp., Ltd. 366
Popper & Sons, Inc. 412
Progressive Labeling Machine Inc. 414

Reheis Co., Inc. 396
Richford Corporation 352
Roure-Dupont, Inc. 284

Santonin Company of America 404
Scandia Manufacturing Co. 423
Schimmel & Company 300
Schoettle, Edwin J. Co. 326
Sheffield Tube Corp. ..... Insert facing 328
Sindar Corporation 293
Sonneborn L. Sons, Inc. 285
Standard Pharmacal Co. 414
Sterwin Chemicals, Inc. 275
Stokes Machine Co., F. J. 358
Stokes & Smith Company 386
Strong Cobb & Co., Inc. ..... Insert bet. 288-289
Sunkist Growers 294
Synfleur Scientific Labs. 303

Tablet Coating 392
Tamms Industries, Inc. 423
Tennessee Eastman Company 397
Thurston & Braidich 412
Trade Mark Record 388
Tri-State Plastic Molding Co. 348

Ungerer & Co., Inc. ..... Cover 3
U. S. Bottlers Machine Co. 360

van Ameringen-Haebler, Inc. ..... Insert bet. 304-305
Vitamerican Oil Corp. 420

Welch, Holme & Clark, Inc. 411
Will & Baumer Candle Co. 277
Wolf & Co., Jacques 420
Wyandotte Chemicals Corp. ..... Cover 2